The application of International Financial Reporting Standard 8 Operating segments: Evidence from UK companies

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ABSTRACT

On 30 November 2006, the International Accounting Standard Board (IASB) released International Financial Reporting Standard (IFRS) 8 Operating Segments which replaced the revised International Accounting Standard (IAS) 14 Segmental reporting. This study consists of four main projects covering the empirical analysis of the non-financial FTSE 350 constituents' first segmental disclosures under IFRS 8.

The new standard is a result of the joint short term project between the IASB and the Financial Accounting Standards Board (FASB) and it is almost identical to its US counterpart. The first part of this study analyses the level of compliance (measured by compliance indices) with the requirements of IFRS 8 and examines the factors that might provide some explanation of the variances in the compliance levels of the companies. The results suggest that there is substantial non-compliance with the entity-wide disclosure requirements of IFRS 8. There is evidence that the companies are withholding sensitive information (such as reliance on major customers; non-current assets and external revenue attributed to the entity's country of domicile and material foreign countries) which provides support for the proprietary cost theory. The results also indicate that the extent of compliance varies significantly. The evidences suggest that the identity of the auditor is one of the most important company characteristics in explaining the overall level of compliance with the segmental reporting requirements of IFRS 8. Thus, the audit quality provided by the BIG 4 audit companies seems to be different. Additionally, the findings reveal that the overall level of compliance and the level of compliance with the entity-wide requirements of the standard is significantly greater for companies organised around different products and services (business reportable segments) or a combination of different products, services and geographical areas (mixed reportable segments) compared to companies organised around different geographic areas (geographic reportable segments). It raises the question whether the companies use their organisational structure to conceal / reveal information. The relatively high level of non-compliance with the entity-wide requirements of the standard and the considerable variance between the levels of compliance of the individual companies questions the success of the convergence of the accounting standards and the quality and the comparability of the financial statements.

It is no doubt that geographic disclosures provide useful information on assessing internationally diversified companies' risks and prospects and on making economic decisions. The second part of this study analyses the impact of IFRS 8 on the quality of the geographic disclosures of the sample companies and tries to provide some explanation for better understanding the diversity of the preparers' geographic disclosure practice and their possible incentives to conceal / reveal geographic information. The findings suggest that the introduction of IFRS 8 has both positive and negative impacts on the geographic disclosure quality of the companies. The results reinforce previous research findings and indicate that the companies' geographic disclosure quality cannot be described by only one quality measure. Considerable variation was found in the companies' geographic disclosure quality. However, none of the studied company characteristics had significant effect on all of the quality measures. Additionally, the research results seem to indicate that it is not in the interest of a relatively high percentage of the sample companies to change their geographic disclosure practice. The companies stick with their disclosure practice even under the new standard.

Geographic information disaggregated to country-level results in greater accountability and transparency and provides financial information that is more useful and relevant for financial statement users than information provided for geographic regions. However, IFRS 8 only requires the separate disclosure of individually material countries and it does not provide guidance on how to set the materiality level. The third

part of the study provides some insight into (1) how the companies apply the materiality concept in defining their individually material countries and (2) how different company characteristics affect the companies' materiality decisions. The quantitative materiality threshold applied by the sample companies (estimated by the method developed by Doupnik and Seese, 2001) varies considerably which indicates that the companies do not follow a general quantitative benchmark. However, with the exception of early adoption none of the studied company characteristics had significant effect on the materiality threshold applied by the companies. The results suggest that there could be both quantitative and qualitative factors, not studied in this research that might be more important in the preparers' materiality decisions. However, only the preparers know what is behind their materiality decision. Only a few companies disclosed information about the quantitative materiality threshold applied and none of them disclosed information about the qualitative factors considered in assessing the materiality of an individual country. The empirical findings provide evidence that the companies use both the flexibility provided by IFRS 8 and the shield of the materiality concept when they make materiality decisions about their individually material, therefore reportable countries. Greater transparency and detail about the companies' materiality decision would reduce the uncertainty and could enhance the understandability of the companies' segmental notes. The IASB has recently announced plans to consider a project on materiality (IASB, 2013a). The findings of this study could present relevant information to the IASB's work on providing guidance on the application of the materiality concept.

In the last decade there have been calls from civil societies, regulatory bodies and international economic organisations to require multinational companies (MNCs) to disclose information about their activities in those countries where they have operation. The fourth part of the study provides a summary of the impact of the introduction of IFRS 8 on the sample UK listed companies' country-level disclosures and critically evaluates whether the existing geographic disclosure requirements through IFRS 8 provide sufficient financial information and transparency for the different financial statement users. The results indicate that (1) the fact that IFRS 8 only requires the disclosure of the revenue and non-current assets for the country of domicile and for the material foreign countries, (2) the way the MNCs apply the materiality concept to define countries that need to be individually disclosed and (3) the companies preference to keep geographic information at minimum level result in a relatively poor level of audited country-level information even among the largest listed companies. Therefore, what is disclosed in the companies' audited financial statements is very far from the idea of full country-by-country reporting (CBCR). The IASB decided not to undertake proactive work in this area and preparers argue that enough information and transparency is provided under the requirements of IFRS 8. However, the findings of this study and the fact that legislative bodies in the US and in the EU had to bypass the IASB and issue CBCR related new regulations indicate that the country-level requirements of IFRS 8 and the country-level information provided by the companies in their segmental notes are not sufficient and transparent enough. To ensure the same reporting requirement for entities worldwide and to increase transparency and the availability of important geographic financial information, to enhance consistency and to help the comparison CBCR should be considered by the IASB and addressed in international accounting standard(s).

DEDICATION

This thesis is dedicated to my beloved daughter, Sarolta.

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This doctoral thesis would not have been possible without the support and guidance of a number of people around me. First and foremost, I am heartily thankful to my PhD supervisors Professor Claire Marston and Dr Santhosh Abraham for their guidance and academic support during these past four years. It has been a pleasure and honour to work under their supervision. I really hope that the result is worthy of all the time they spent assisting me. I would like to express my gratitude to my external examiner, Professor Clare Roberts and my internal examiner, Dr William Jackson for their valuable comments.

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DECLARATION STATEMENT

ACADEMIC REGISTRY
Research Thesis Submission

Name*:*	Gizella Marton		
School/PGI:	School of Management and Languages		
Version: *(i.e. First, Resubmission, Final)*	Final	Degree Sought (Award **and** Subject area)	PhD in Accounting

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LIST OF ABBREVIATIONS

AAA	American Accounting Association
AAS	Australian Accounting Standard
AASB	Australian Accounting Standard Board
ANOVA	Analysis of Variance test
ASC	Accounting Standard Codification
CBC	Country-By-Country
CBCR	Country-by-country Reporting
CODM	Chief Operating Decision Maker
CSO	Civil Society Organisation
CSR	Corporate Social Responsibility
EBI	Earnings Before Interest
EBIT	Earnings Before Interest and Taxes
EBITA	Earnings Before Interest, Taxes and Amortisation
EBITDA	Earnings Before Interest, Taxes, Depreciation and Amortisation
EC	European Commission
ED	Exposure Draft
EFRAG	European Financial Reporting Advisory Group
EP	European Parliament
EPS	Earning Per Share
ESMA	European Securities and Markets Authority
EU	European Union
EWI	Entity-wide Information
FAF	Financial Accounting Foundation
FASB	Financial Accounting Standards Board
FASC	Financial Accounting Standards Committee
FRC	Financial Reporting Council
FRRP	Financial Reporting Review Panel
FTSE	Financial Times Stock Exchange
GAAP	Generally Accepted Accounting Principles
HHI	Herfindahl-Hirschman Index
IAASB	International Auditing and Assurance Standards Board
IAS	International Accounting Standard

IASB	International Accounting Standards Board
IASC	International Accounting Standards Committee
ICAEW	Institute of Chartered Accountants in England and Wales
ICAS	Institute of Chartered Accountants of Scotland
ICB	Industry Classification Benchmark
IFRS	International Financial Reporting Standard
ISA	International Standards of Auditing
LOB	Line of Business
MD&A	Management Discussion and Analysis
MNC	Multinational Corporation / Company
NCA	Non-Current Asset
NGO	Non-Governmental Organisation
No.	Number
NZICA	New Zealand Institute of Chartered Accountants
OECD	Organisation for Economic Co-operation and Development
OLS	Ordinary Least Squares
PBIT	Profit Before Interest and Tax
PBITA	Profit Before Interest, Tax and Amortisation
PBP	Project-By-Project
PBPR	Project-By-Project Reporting
PIR	Post Implementation Review
PPE	Property, Plant and Equipment
PWYP	Publish What You Pay
R	Revised
R&D	Research and Development
RIF	Request for Information
RO	Research Objective
ROA	Return on Assets
ROS	Return on Sales
ROW	Rest of the World
RQ	Research Question
SAB	Staff Accounting Bulletin
SEC	Securities and Exchange Commission
SFAC	Statement of Financial Accounting Concepts
SFAS	Statement of Financial Accounting Standard

SIC	Standard Industrial Classification
SSAP	Statements of Standard Accounting Practice
TI	Transparency International
TJN	Tax Justice Network
UK	United Kingdom
US GAAS	US Generally Accepted Auditing Standards
US	United States
VIF	Variance Inflation Factors

Chapter 1 Introduction

1.1 Introduction and justification of the study

> *"Segment information is one of the most vital aspects of financial reporting for investors and other users. As mots listed companies are complex, heterogeneous groups, segment information provide users the key to understanding corporate business models and economic dynamics. It allows external observers to understand the respective risks and value potentials of different lines of business, the synergies or inefficiencies that may make a group more or less than the sum of its parts, and the underlying corporate strategy."* (Véron, 2007, p3)

As a result of the rapid globalisation during the past decades most listed companies are complex, heterogeneous groups. Users of financial statements are interested in assessing the risks and prospects (e.g. growth opportunities, profit potentials) of the different business lines and the geographical markets in which these companies operate. Beside other forms (e.g. press releases, media, company's website, presentations for analysts) companies provide information through their mandatory and audited financial reports. However, consolidated financial data (aggregated to group level) cannot provide users with the information they need in order to make correct assessment of the company. Segment reporting in a company's financial reports is an important (and in many cases the only available) source for users to better understand and evaluate the performance of a company's activities. Academic research generally suggest that segment data convey useful information to the market, improves the users' ability to better predict the company's future earnings and reduces the company's market riskiness. (Section 3) Therefore, insight into the reporting practice of the companies with respect to segmental disclosure is highly relevant for users of financial statements and standard setters.

On 30 November 2006, the International Accounting Standards Board (IASB) released International Financial Reporting Standard (IFRS) 8 Operating Segments which replaced the revised (R) International Accounting Standard (IAS) 14 Segment reporting and almost identical to its United States (US) counterpart, Statement of Financial Accounting Standard (SFAS) 131. To date, however, scarce empirical evidence is available about the impacts of IFRS 8 on the companies' segmental reporting practice.

IFRS 8 is the result of *"the process of convergence and influence of US practice"* (Crawford et al, 2013, p15). The adoption of this "alien" American standard was subject to debate during the IASB' due process and during the European Union (EU) endorsement of the standard. Opponents of the new standard argued that the convergence of accounting

standards should not be a simple copying activity. (Section 2.2) To be useful for its users financial information needs to be comparable. However, prior research documented considerable level of non-compliance with the requirements of IAS 14 and IAS 14R. (Section 5.2) Thus, what the companies actually do in practice is not always the same as what the companies should do. It can be argued that if the companies do not comply with the accounting standard the convergence of these standards and the quality and comparability of the financial statements are questionable.

Therefore, the first objective of this research (RO_1) is to assess the extent of compliance with the requirements of the new segmental reporting standard and examine the factors that might provide some explanation of the variances in the compliance levels of the companies. (Chapter 5)

It is generally accepted that geographic disclosures provide useful information on assessing internationally diversified companies' risks and prospects and on making economic decisions. (Section 2.4.5) The potential loss of geographic information as an impact of the new standard was one of the major concerns expressed during the discussion process of the standard. (Section 2.2) The introduction of SFAS 131 in the US had some negative effect on the companies' disclosures. (Section 2.4.2) Additionally, prior research found a relatively high level of non-compliance with the geographic information related requirements of IFRS 8. (Section 5.2) Furthermore, during the Post Implementation Review (PIR) of IFRS 8 some investors questioned the usefulness of the geographic information disclosed under IFRS 8. (Section 6.1)

Therefore, the second objective of the research (RO_2) is to analyse the impact of IFRS 8 on the sample companies' geographic disclosures and to provide and explanation for better understanding the diversity of the preparers' geographic disclosure practices and their possible incentives to conceal or reveal geographic information by analysing the relationship between different company characteristics and the quality of the company's geographic disclosure. (Chapter 6)

Geographic information disaggregated to country-level results in greater accountability and transparency and provides financial information that is more useful and relevant for

financial statement users than information provided for geographic regions[1]. (Section 2.4.2, Section 2.4.5 and Section 8.2) However, IFRS 8 only requires the separate disclosure of the country of domicile and individually material countries and it does not provide guidance how to set the materiality level. (Section 2.2 and Section 7.2.1) The materiality decision made by preparers affects the number of countries identified and reported individually and impacts on the aggregation and fineness of the geographic disclosures of the companies. The IASB has recently announced plans to consider a project on materiality (IASB, 2013a), as a follow on to its survey (2012) and public discussion forum (2013) on financial reporting disclosures and evidence gathered from other professional body publications (e.g. Financial Reporting Council, FRC; European Financial Reporting Advisory Group, EFRAG; International Auditing and Assurance Standards Board, IAASB; Institute of Chartered Accountants of Scotland, ICAS; New Zealand Institute of Chartered Accountants, NZICA; European Securities and Markets Authority, ESMA). Insight into how the companies apply the materiality concept in defining their individually material countries can present relevant information to the IASB's work on providing guidance on the application of the materiality concept.

Therefore, the third objective (RO_3) of this study is to provide empirical evidence and demonstrate how the sample UK listed companies have applied the materiality concept in defining their individually material countries and how different company characteristics affect the companies' materiality decision. (Chapter 7)

In the last decade there have been calls from civil societies (e.g. Richard Murphy and the Tax Justice Network, TJN; the Publish What You Pay coalition, PWYP), regulatory bodies (e.g. US Congress, 2010: Dodd-Frank Wall Street Reform Act.; US Congress, 2013: proposal of the Cut the Unjustified Tax Loopholes Act.; European Parliament, EP, 2013: Transparency, Accounting and Capital Requirements Directives) and from international economic organisations (e.g. Organisation for Economic Co-Operation and Development, OECD, 2013: Action Plan on Base Erosion and Profit Shifting) to require multinational companies (MNCs) to disclose information about their activities in those countries where they have operations. It is an ongoing issue whether MNCs should provide detailed country-by-country reporting (CBCR) in their financial statements. However, to date with the exception of the IFRS 8 requirement to disclose external

[1] any grouping of individual countries such as sub-continent, continent, multi-continent, emerging markets, foreign, Rest of the World (ROW) etc.

revenues and non-current assets (NCAs) for individually material foreign countries and for the country of incorporation MNCs are not required to disclose financial information on a country-by-country (CBC) basis in their audited financial statements. The IASB decided not to undertake proactive work in this area and preparers argue that enough information and transparency is provided under the requirements of IFRS 8. However, legislative bodies in the US and EU had to bypass the IASB and issue CBCR related new regulations. (Section 8.1 and Section 8.2)

Table 1.1 Research Objectives (RO), Research Questions (RQ) and Thesis Chapters

Research Objective	Research Question	Thesis Chapter
RO_1	$RQ_{1.1}$: What is the level of compliance with the segmental reporting requirements of IFRS 8?	Chapter 5
	$RQ_{1.2}$: What company characteristics are associated with the extent of compliance with the disclosure requirements of IFRS 8?	
RO_2	$RQ_{2.1}$: Did the quality of geographic disclosures improve under IFRS 8?	Chapter 6
	$RQ_{2.2}$: What company characteristics drive secrecy and support openness?	
RO_3	$RQ_{3.1}$: To what extent do companies disclose information about their materiality judgment (how and why is an individual country determined to be material)?	Chapter 7
	$RQ_{3.2}$: What quantitative and qualitative thresholds are used to determine the materiality of individual countries?	
	$RQ_{3.3}$: What company characteristics affect the companies' materiality decision?	
RO_4	$RQ_{4.1}$: Can individual country disclosure under IFRS 8 provide sufficient information and transparency?	Chapter 8

Therefore, the fourth objective (RO_4) of this study is to provide a summary of the impacts of the introduction of IFRS 8 on the sample UK (United Kingdom) listed companies' country-level disclosures and critically evaluate whether the existing geographic disclosure requirement through IFRS 8 provide sufficient financial information and transparency for the different financial statement users. (Chapter 8)

In order to address the above mentioned research objectives the study seeks answers to the research questions listed in Table 1.1.

1.2 Research Methods and Sample

The "outsider" financing system, the strong equity market, legal protection of investors, enforcement of accounting rules, and the influence of the large and strong accounting profession and their professional bodies (Nobes, 1998; La Porta et al., 1997; Brown and Tarca, 2005) makes the UK a suitable financial reporting environment to analyse the companies' segmental disclosure quality under IFRS 8. This background should provide (1) a smooth transition from IAS 14R to IFRS 8 and (2) high quality disclosures and compliance level with relatively little variances between the listed companies. The analysis of the variances helps to shed light on the different factors and management incentives that can affect the company's segmental disclosure policy and practice.

The Financial Times Stock Exchange (FTSE) 350 constituent (as at 22 June 2011) non-financial companies represent the sample for this study. Segmental data were hand collected from the companies' Annual Reports and analysed by different statistical methods. (Chapter 4)

1.3 Expected contribution of the study

Providing answers to the research questions (Section 1.1 and Section 3.2) will result in contributions to the relevant literature. In broad terms, this study intends to complement and extend the existing research on the implementation of IFRSs. In more specific terms, the objectives of this study are to make contribution to the relevant academic literature with regards to (1) the compliance with the requirement of IFRS 8; (2) the impact of the introduction of IFRS 8 on the quality of the companies' geographic disclosure; (3) the application of the materiality concept in defining the company's individually material countries; (4) the sufficiency and transparency of the companies' existing country-level disclosures and (5) the corporate disclosure theories via the investigation of the effect of different company characteristics on (a) the level of compliance with the requirement of IFRS 8, (b) the quality of geographic disclosures and (c) the materiality threshold applied by the companies in defining the company's individually material countries.

Extensive research was carried out in the US after the introduction (1997) of SFAS 131. IFRS 8 became mandatory for periods beginning on or after 1 January 2009. To date,

scarce empirical evidence is available regarding the application and impacts of IFRS 8 on the companies' segmental disclosures. However, one might argue that these empirical studies have already analysed the impacts of IFRS 8 on the companies' segmental disclosures. For example Crawford et al. (2012) studied a sample of UK listed companies, Nichols et al. (2012) studied a sample of Western-European listed companies and analysed the impacts of IFRS 8 on the segmental disclosures of these companies. The present research differs from both studies mentioned above, as well as from other studies published on the impacts of IFRS 8, in many ways.

First, to facilitate a better understanding this study provides a deeper analysis on the impacts of the introduction of IFRS 8 on listed companies' segmental disclosure practice. The study includes disclosures measures (e.g. compliance with the requirements of IFRS 8 measured by disclosure indices; fineness of geographic information measured by fineness score; homogeneity of geographic disclosures; quantitative materiality level applied by the companies) and company characteristics (e.g. the identity of the company's auditor to study the role of the auditor; effective tax rate to proxy for the companies tax avoidance) that have not been considered in prior studies to explain the differences in the companies' segmental disclosure practice.

Second, while both Nichols et al. (2012) and Crawford et al. (2012) used descriptive statistics to analyse the effects of the introduction of IFRS 8 this research uses other inferential statistical methods (e.g. regression analysis – OLS, rank regression, Tobit model -; correlation; parametric and non-parametric tests to compare means) as well to analyse the possible effects of different company characteristics on (1) the companies' compliance with the requirements of IFRS 8, (2) their geographic disclosure practice and (3) the application of the materiality concept in defining the individually material countries.

Third, this research (1) introduces the company's organisational structure as a new company characteristic and (2) differentiate between the BIG 4 audit companies when studying the quality of the companies' segmental disclosures. The use of these new company characteristics could provide useful findings for researchers and academics with an interest in corporate disclosure in general and segmental reporting and audit quality in particular.

Fourth, by answering the research questions (Section 1.1 and Section 3.2) this study will try 1) to fill research gaps identified by the researcher and also 2) address calls for research on (a) the compliance with the requirements of IFRS 8; (b) the effectiveness of auditors in enforcing IFRS 8 compliance; (c) the possible incentives (to hide / to reveal) behind the geographic disclosure decisions of the preparers; (d) the application of the materiality concept (in defining the individually material countries) (Nichols et al., 2013) and (e) the connection between the company's financial reporting practice and their tax reporting behaviour (Hanlon and Heitzman, 2010).

The findings of this thesis are expected to be of particular relevance (by providing potentially useful input) to (1) the work of different enforcement bodies, (2) the IASB's present work on financial reporting disclosure and materiality, (3) different civil societies (e.g. TJN, PWYP), governmental (e.g. EU, UK) and non-governmental bodies (e.g. OECD) in their fight for country-level disclosures and against profit shifting and tax avoidance and (4) investors when they evaluate the risks and rewards associated with diversified companies and make informed economic decisions.

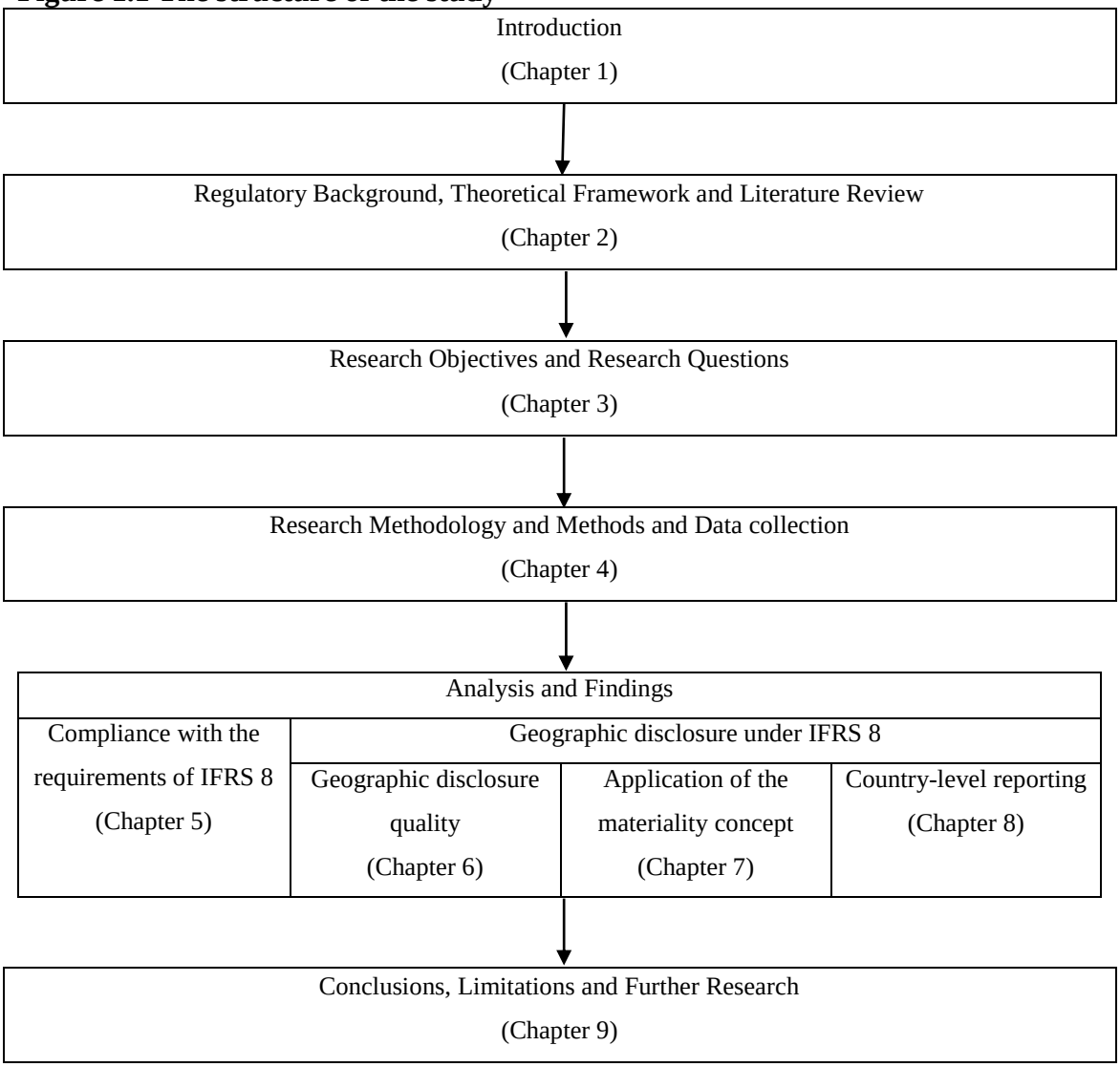
Furthermore, the study intends to offer a critical analysis of (1) the companies' country level disclosures under IFRS 8 and (2) the role of the IASB in improving the companies country by country reporting. The findings could help to facilitate informed debate on the subject by increasing the understanding of how the standard's requirements are applied by the sample companies.

Lastly, to the best of the author's knowledge, this is the first academic study which intends to (1) provide insight into how the companies apply the materiality concept in defining their individually material countries under IFRS 8 and (2) try to identify different company characteristics that might help to explain the diversity of the companies' materiality decisions.

1.4 Structure of the Thesis

This thesis organised into 9 Chapters, including this introductory Chapter. (Figure 1.1)

Figure 1.1 The structure of the study



Chapter 1 contains an introduction to the thesis. The motivation for / justification of the study, the research objectives and questions, a summary of the research methods followed and the main findings and contribution of the study are included. Finally, Chapter 1 outlines the structure of the thesis.

Chapter 2 introduces the regulatory background of segmental reporting along with ongoing debates / issues and existing literature on the subject. The chapter also discusses the relevant theories and provides a theoretical framework for the study.

Chapter 3 outlines the research objectives and research questions of the study.

Chapter 4 describes the research methodology and methods followed by the researcher to answer the research questions and it also discusses the sample selection and data collection process.

Chapter 5, Chapter 6, Chapter 7 and Chapter 8 present the results of the data analysis and assess (1) the companies' compliance with the disclosure requirements of IFRS 8 (Chapter 5), (2) the quality of the geographic disclosures provided under the companies' segmental notes (Chapter 6), (3) the application of the materiality concept (Chapter 7), (4) the companies' country-level reporting (Chapter 8) and (5) the effect of different company characteristics on the companies' segment disclosure practice (Chapter 5, Chapter 6, Chapter 7 and Chapter 8). Additionally, Chapter 5, Chapter 7 and Chapter 8 provide a summary and discussion of the related regulatory background, ongoing debates / issues and literature (Chapter 5 → compliance; Chapter 7 → the application of the materiality concept; Chapter 8 → country-level disclosure).

Chapter 9 provides a summary of the study. Conclusions, limitations of the study and suggestions for further research are also presented.

Chapter 2 Regulatory background, Theoretical framework and Literature review

2.1 Introduction

The purpose of this chapter is to introduce the regulatory background of segmental reporting and the debates surrounded the introduction of IFRS 8 (Section 2.2), to discuss the theoretical framework that is used in this study (Section 2.3) and to review previous research on segmental reporting (Section 2.4). The chapter provides a foundation and a framework for the development of the research questions (Chapter 3).

2.2 Regulatory background

On 30 November 2006, the IASB released IFRS 8 Operating Segments, which replaced the revised (R) IAS 14 Segment Reporting. IFRS 8 is mandatory for annual financial statements for periods beginning on or after 1 January 2009 (although earlier application was permitted). The new standard is a result of the joint short-term project between the IASB and Financial Accounting Standards Board (FASB) in order to reduce differences between IFRS and US Generally Accepted Accounting Principles (GAAP). With the exception of some minor differences (Table 2.1) IFRS 8 replicates the FASB's SFAS 131[2] and is substantially different from the precursor (IAS 14R) in requirement of the identification, measurement and disclosure of segment information. (Table 2.2) (Deloitte, 2006; IASB 2006; Crawford et al., 2013)

Table 2.1 Differences between IFRS 8 and SFAS 131

Differences	IFRS 8	SFAS 131
Non-current assets vs. long-lived assets	Non-current assets include intangible assets.	Long-lived assets (hard, tangible assets) do not include intangible assets.
Segment liabilities	If the information regularly provided to the CODM they should be disclosed.	The disclosure is not required.
Entities with matrix form of organisation	The operating segments are determined based on the core principle of IFRS 8.	Segments are determined based on products and services.

Source: Roberts, 2010, Chapter 19; Nichols et al., 2012

[2] On 1 July 2009 the FASB issued Statement No. 168, The FASB Accounting Standard Codification (ASC). The ASC is now the source of authoritative generally accepted accounting principles. (SFAS 131 → ASC 280 Segment Reporting)

Under IAS 14R entities identified and disclosed their segments by both line of business and geographical regions (two-tier approach, Nichols et al., 2012). IAS 14R required the entities to choose between line of business and geographical segments for primary segmental disclosures. The entities used a combination of the management approach and the risk and reward approach to identify their primary segments. Each primary segment determined under the management approach needed to have similar risks and rewards characteristics, otherwise the entity had to modify its segments based on the risks and reward approach. (IAS 14R: 26-27) IFRS 8, however, adopted the pure management approach. Under the new standard operating segments are identified as components of an entity (line of business, geographical areas or the mixture of these two) that engages in business activities from which it may earn revenues and incur expenses and whose operating results are regularly reviewed by the entity's chief operating decision maker (CODM) in order to allocate resources to the segments and assess their performance. (IFRS 8: 5) Operating segments may be aggregated if the segments have similar economic characteristics (based on the nature of the product and services, the nature of the production processes, the type or class of customer for their product of services, the methods used to distribute their products or provide their services and the nature of the regulatory environment). (IFRS 8: 12) Additionally, individually immaterial segments (segment's revenue, profit and loss, assets are all less than 10% of the entity's total revenue, profit and loss, asset) can be aggregated into an "all other" segment. (IFRS 8: 13)

For the purpose of identifying reportable segments there is no distinction between revenues and expenses relating to transactions with external parties and revenues and expenses relating to transactions with other parts of the entity under IFRS 8. Thus, no distinction is made between external and internal revenues (expenses) of the entity. However, under IAS 14R a segment only qualified to be reportable if the majority of its revenues were earned from external customers.

A measure of profit or loss for each reportable segment must be disclosed under IFRS 8. Additional line items (such as external and internal revenues; assets; liabilities; interest revenue and interest expense; depreciation and amortisation; other material items of income and expense; interest in profit or loss of associates and joint ventures accounted for by the equity method; income taxes; material non-cash items other than depreciation

and amortisation; investment in associates and joint ventures accounted for by the equity method; additions to non-current assets) are only required to be disclosed if they are included in the calculation of segment profit or loss or are regularly provided to the CODM. (IFRS 8: 23) Thus, these items become "quasi voluntary" under IFRS 8. IAS 14R, in contrast, listed the reportable items for each reportable segments (such as segment profit or loss, assets, liabilities, revenues from external customers, revenues from transactions with other operating segments, depreciation and amortisation, interest in profit or loss of associates and joint ventures accounted for by the equity method, material non-cash items other than depreciation and amortisation, addition to non-current assets for primary segments; and revenues from external customers, assets, capital expenditure for secondary segments; IAS 14R: 51-67 and 69-72).

IFRS 8 does not require the measurement of segment amounts to be based on an entity's IFRS accounting policies. Thus, it permits the use of non IFRS measures used for internal reporting purposes. The measurement basis for each item separately reported should be the one used in the information provided to the CODM. (IFRS 8: 25) The entity must disclose additional explanation of the basis on which the disclosed amounts have been measured and the nature of any differences (e.g. accounting policies, policies for allocation) between the measurement of the reportable segments' profit or losses (assets, liabilities) and the entity's profit or loss (assets, liabilities). (IFRS 8: 27) The disclosures also include reconciliations of the totals of segment amounts for profit or loss (assets; liabilities; other material items) to the corresponding entity amounts reported in the IFRS financial statements of the entity. (IFRS 8: 28) IAS 14 required the segmental information to be prepared in line with the entity's accounting policies for preparing the IFRS financial statements and provided definition of segment revenues, expenses, result, assets and liabilities. (IAS 14R:16)

To help to understand diversified businesses and enhance the comparability between entities (Roberts, 2010), preparers must disclose "entity-wide disclosures" about their business and geographical segments and major customers. Entity-wide disclosures need to be provided even when an entity has only a single operating segment (IFRS 8: 31) and the amounts reported need to be based on the financial information that is used to produce the entity's IFRS financial statements (IFRS 8: 33).

Table 2.2 Disclosure requirements under IAS 14R and under IFRS8

Disclosure	IAS 14R	IFRS 8	
		must be disclosed	disclosed if they are included in the measures of segment profit/loss and assets or are regularly provided to the CODM
Primary Segment / Reportable segment			
Segment profit or loss	X	X	-
Segment assets	X	-	X*
Segment liabilities	X	-	X
Revenues from external customers	X	X**	-
Revenues from transactions with other operating segments of the same entity	X	-	X
Interest revenue	-	-	X
Interest expense	-	-	X
Depreciation and amortisation	X	-	X
Other material items of income and expense	-	-	X
Interest in profit or loss of associates and joint ventures accounted for by the equity method	X	-	X
Income tax expense or income	-	-	X
Material non-cash items other than depreciation and amortisation	X	-	X
Investment in associates and joint ventures accounted for by the equity method	-	-	X
Addition to non-current assets*** (capital expenditure)	X	-	X
Measurement			
Explanation of the measurements of			
Segment profit or loss	-	X	-
Segment assets	-	-	X
Segment liabilities	-	-	X
Basis of accounting for any transactions between reportable segments	X	X	-
The nature of any differences between the measures of the reportable segment numbers and the entity's amount for			
Profit or loss	-	X	-
Assets	-	-	X
Liabilities	-	-	X

Table 2.2 (continued) Disclosure requirements under IAS 14R and under IFRS8

Disclosure	IAS 14R	IFRS 8	
		must be disclosed	disclosed if they are included in the measures of segment profit/loss and assets or are regularly provided to the CODM
The nature of any changes from prior periods in the measurement method used to determine reportable segment profit or loss	-	X	-
The nature and effect of any asymmetrical allocation to reportable segments	-	X	-
Reconciliation of the total of the reportable segments to the entity's amount for			
Revenue	X	X**	-
Profit or loss	X	X	-
Assets	X	-	X
Liabilities	X	-	X
Other material items	-	-	X
Secondary segment			
Revenues from external customers	X	-	-
Segment assets	X	-	-
Capital expenditure	X	-	-
Entity-wide disclosures**			
Revenue from external customers for each (group of) product / service	-	X*****	-
Revenues from external customers (i) attributed to the entity's country of domicile and (ii) attributed to all foreign countries in total from which the entity derives revenues.	-	X*****	-
Basis for attributing revenues from external customers to individual countries		X	
Non-current assets*** (i) located in the entity's country of domicile and (ii) located in all foreign countries in total in which the entity holds assets.	-	X*****	-
Extent of reliance on major customers	-	X	-

Table 2.2 (continued) Disclosure requirements under IAS 14R and under IFRS8

Disclosure	IAS 14R	IFRS 8	
		must be disclosed	disclosed if they are included in the measures of segment profit/loss and assets or are regularly provided to the CODM
If revenues from transactions with a single external customer amount to 10% or more of an entity's revenues the entity shall disclose			
that fact		X	
the total amount of revenues from each such customer		X	
the identity of the segment or segments reporting the revenues		X	

*: IFRS 8.23 was amended in April 2009. The amendment was mandatory for annual periods beginning on or after 1 January 2010 but earlier application was permitted.; **: based on IFRS 8.23(a) revenues from external customers shall be disclosed if the amounts are included in the measure of segment profit or loss reviewed by the CODM, or are otherwise regularly provided to the chief operating decision maker; since non of the profit measures can be calculated without the revenue information this information is treated as "must be disclosed" by the researcher; ***: other than financial instruments, deferred tax assets, post-employment benefit assets, and rights arising under insurance contracts; ****: required to be provided only if it is not provided as part of the reportable segment information (IFRS 8.31); *****: if the necessary information is not available and the cost to develop it would be excessive, that fact shall be disclosed (IFRS 8.33), the amounts reported shall be based on the financial information that is used to produce the entity's financial statements (IFRS 8.32 and 8.33)

Source: IAS 14R (IASB, 1997) and IFRS 8 (IASB, 2006a)

Unless the necessary information is disclosed as part of the reportable segment information (IFRS 8: 31) or the cost to develop the information would be excessive[3] (IFRS 8: 32; IFS 8: 33) IFRS 8 requires entities to provide information about their revenues from external customers on a geographical (attributed to the country of domicile and attributed to all foreign countries in total; IFRS 8: 33) and "class of business" (for each product and service, or each group of similar products and services; IFRS 8: 32) basis. Entities also need to provide information on non-current assets on a geographical basis (located in the country of domicile and located in all foreign countries in total; IFRS 8: 33), but not on a "class of business" basis. (IFRS 8: 33) Additionally, if revenues from

[3] in which case that fact need to be disclosed

external customers attributed to (assets in) an individual foreign country are material, those revenues (assets) need to be disclosed separately (IFRS 8: 33 (a) and (b))

Under IFRS 8 disclosures are required about the extent of the entity's reliance on its major customers. When an entity receives more than 10% of its revenues from a single external customer (major customer) the entity must disclose this fact (no need to identify the major customer), the total amount of revenues earned from each customer, and the name of the operating segment that reports the revenues (no need to disclose the amount of revenues from major customer). (IFRS 8: 34) Thus, under the entity-wide-disclosure requirements introduced by IFRS 8 preparers have to disclose commercially potentially harmful information (such as revenue and non-current assets by material foreign countries; information about the entity's major customers). (Table 2.2 summarises the differences between the disclosure requirements of IAS 14R and IFRS 8.)

The key differences between IFRS 8 and IAS 14R and the convergence with the US segmental reporting standard sparkled ongoing debates regarding the costs and benefits of applying the new standard. During the comment period the IASB received diverse views about the advantages (benefits) and disadvantages of the proposed new standard (Exposure Draft, ED 8). However, the IASB and the European Commission (EC) argued that the introduction of IFRS 8 improves the segment information and the benefits associated with the new standard (e.g. convergence with US GAAP; the new approach improves the users' ability to predict future results and cash flows; increase in interim reporting etc.) would outweigh the cost and disadvantages (e.g. the loss of geographical information; the use of non-IFRS measures; inconsistent segments reported by the entities etc.). (EC, 2007; IASB, 2006a) However, others (e.g. Véron, 2007) thought that the new standard might result in lower quality segment information.

Concerns were expressed with certain features of IFRS 8. First, IFRS 8 does not provide clear definition of segments and elements included and does not provide guidance on how to set the materiality limit and how to identify segments. This provides leeway to management manipulation and could lead to less objective information and unnecessary instability or inconsistency. (EC, 2007; Véron, 2007; Crawford et al., 2012a; Crawford et al., 2013)

Second, IFRS 8 is based on internal management information and measurement approaches (non-GAAP measures) for external purposes and only requires entity level reconciliation to IFRS. This could result in sizeable reconciling items and could harm comparability and also provides opportunity to managers to hide, manipulate information.[4] (Gallhofer and Haslam, 2007; Véron, 2007; EC, 2007; Crawford et al., 2010; Crawford et al., 2012a; Crawford et al., 2013; Nichols et al., 2013)

Third, by using the management approach the new standard discloses information that was prepared to internal decision making (resource allocation within the company) and not for use by external users to make economic decisions about providing resources to the different entities (resource allocation between companies). There seems to be a conflict between the management approach and the objective of financial reporting as it stated in the IASB's conceptual framework. (Véron, 2007; Crawford et al., 2013)

> *"OB2 The objective of general purpose financial reporting is to provide financial information about the reporting entity that is useful to existing and potential investors, lenders and other creditors in making decisions about providing resources to the entity. Those decisions involve buying, selling or holding equity and debt instruments, and providing or settling loans and other forms of credit."* (IASB, 2010d, p9)

The two dissenting IASB Board members and some EFRAG members also argued that *"proper external reporting of segment information should not permit the use of non-GAAP measures because they might mislead users"*. (IFRS 8, D04)

Fourth, in US context the term of CODM have a specific meaning but it is not used and defined within IFRSs[5]. (EP, 2007; Crawford et al., 2010; Crawford et al., 2012a; Crawford et al., 2013) It is argued that identifying the company's CODM could be difficult in many EU countries where the unitary board model is the pre-dominant governance structure. (EC, 2007)

Fifth, geographical segment information is relevant for different stakeholder groups. When geographical segments are not considered as operating segments the disclosure of

[4] e.g. different management structures of entities could result in inconsistent segment disclosures; key segment items which are not regularly reported to the chief operating decision maker (CODM) can be omitted; reconciliations between segment totals and IFRS consolidated numbers could reduce understanding etc.

[5] Instead of CODM the Conceptual Framework uses "governing board" and IAS 24 Related Party Disclosures uses "key management personnel".

geographical segment information is voluntary under IFRS 8. (see more in Section 2.4.2) (EP, 2007; EC, 2007; Crawford et al., 2010)

Sixth, smaller listed companies, which possibly report a single segment under IAS 14R, criticised the new standard due to the potential release of commercially sensitive information to the market. (Katselas et al., 2011; EC, 2007)

Seventh, segment reporting is one of those matters on which preparers and users may have significantly different viewpoints. It is argued that views of users have not been taken into account properly in the consultation process. (EC, 2007; EP, 2007; Crawford et al., 2010)

> *"... the IASB appears to have deferred to the goal of its convergence with the US FASB, rather than meet the objectives of its own conceptual framework."* (Crawford et al., 2012b, p34)
>
> *"However, rather than the two standard setting bodies coming together to agree a new common approach, the IASB just seemed to adopt the US standard; indeed, IFRS 8 was substantially identical to SFAS 131 which supported the arguments of those who suggested that the harmonisation process was leading to the "Americanisation" of IAS / IFRS."* (Crawford et al., 2013, p15)

Eighth, the IASB achieved convergence by accepting the US practice. Véron (2007) suggests that *"the IASB has generally been effective in producing high-quality standards"*. (p14) However, in the case of IFRS 8 they might give precedence to short-term convergence with US GAAP over standard quality. (Véron, 2007; EP, 2007; Crawford et al., 2010; Crawford et al., 2013) Even the EP emphasized in its resolution (14 November 2007) that the convergence of accounting rules should not be a simple copying activity. (EP, 2007)

Ninth, it is also argued that to adopt a US standard without an economic impact assessment is inappropriate when the conceptual frameworks, economic and legal environments, cultures are different. (EP, 2007; Elliott and Elliott, 2013)

The concerns listed above were also expressed by the different stakeholders groups in comment letters to ED8. Based on its analysis of the comment letters to ED8 the IASB concluded that there was an overall support for the adoption of IFRS 8 and decided to

adopt the new segmental reporting standard as it was proposed in ED8. However, by analysing the comment letters and using semi-structured interviews before the introduction of the standard, Crawford et al. (2012b) found that the different stakeholders had different views about IFRS 8 (supporters mainly consist of preparers and opponents mainly consist of investors) and the concerns expressed in comment letters (e.g. the concept of CODM, the use of non-IFRS measures) and the resulting difficulties (e.g. the question of comparability, transparency, consistency) *"do not appear to have been fully assimilated by the IASB in light of its own conceptual framework."* (Crawford et al., 2012b, p31)

Although two of the IASB members voted against the new standard and some EFRAG members and both the European and UK Parliament raised concerns with the EU endorsement[6] of IFRS 8 it is argued by the IASB, EFRAG and EC that the *"adoption of IFRS 8 would be in the interest of the vast majority of persons and bodies with interest in financial reporting in Europe"*. (EC, 2007, p9)

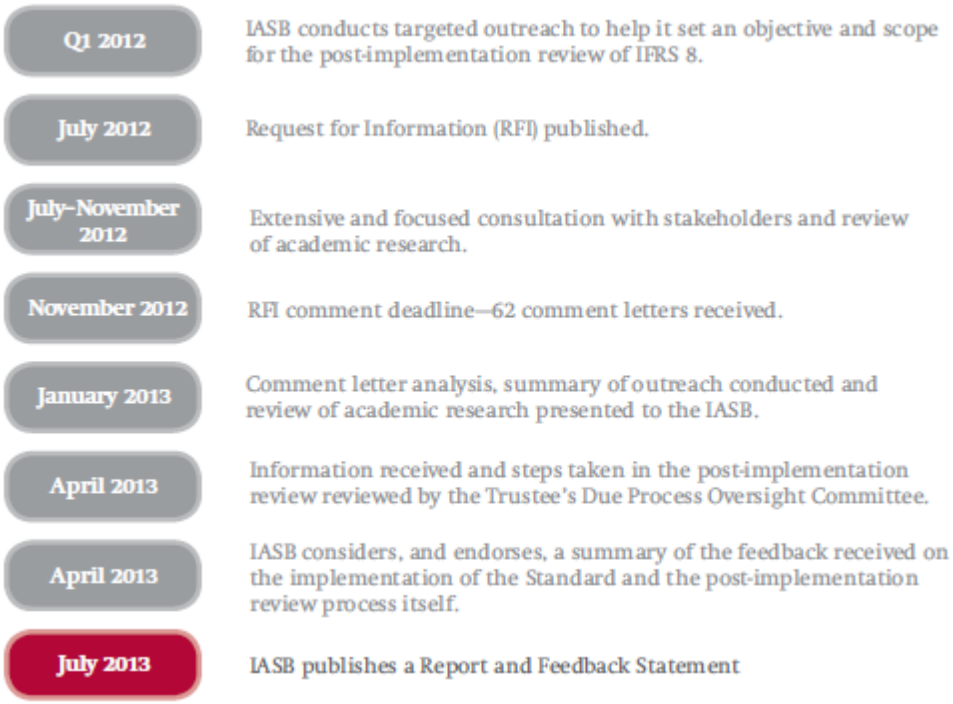
Extensive research has been carried out in the US after the introduction of SFAS 131. (see more in Section 2.4) The IASB decision to converge with SFAS 131 was based on the results of these studies. (IASB, 2006a; EC, 2007) US research provides useful input in terms of the expected impacts of IFRS 8 implementation. However, IAS 14R had a more extensive disclosure requirement than SFAS 14 which was replaced by SFAS 131 (Crawford et al., 2013), there are some minor differences between IFRS 8 and SFAS 131 (Table 2.1) and research carried out on the US market can only indicate the possible effects on other financial markets (different economical and legal environment, culture etc. of non-US companies). (Roberts, 2010) Therefore the IASB scheduled IFRS 8 for a post-implementation review and the EC *"emphasise that a broad ex-post evaluation analysing the effects of the standard would be welcome"*. (EC, 2007, p17)

The Trustees added PIR to the IASB's due process in 2007. A PIR is carried out two years after the introduction of a major new standard, or a significant amendment to an existing standard has been applied. The first PIR focused on IFRS 8 with a timeline introduced in Figure 2.1. The concerns expressed during the public consultation of ED 8 and the endorsement of IFRS 8 by the EP increased the importance of the PIR of IFRS 8.

[6] The EP asked for separate impact assessment by the EC, and concerns were expressed by the EP in its resolution to endorse IFRS 8.

In July 2013 the IASB finished the review of IFRS 8 and published a Report and Feedback Statement. During the review process the IASB carried out a public consultation through a Request for Information (RIF), members and staff of IASB took part in outreach events and a literature review was also conducted. (IASB, 2013b)

Figure 2.1 Timeline for the post-implementation review of IFRS 8



source: IASB, 2013b, p4

> *"Our conclusion is that the benefits of applying the Standard were largely as expected and that overall the Standard achieved its objectives and has improved financial reporting."* (IASB, 2013b, p6)

The PIR confirmed that IFRS 8 has achieved most of the expected benefits (e.g. convergence with SFAS 131 at low cost; low cost of implementation; easier communication between preparers and investors; improved financial reporting). Preparers generally think that the new standard works well. Auditors, accounting companies, regulators and standard-setters generally support the standard but they also made some suggestions how to improve the application of the standard. However, investors had mixed opinion and some of them expressed concerns about the segmental information provided under IFRS 8 (e.g. segments are not comparable among entities; loss of trend data on reorganisation; confusing and not well explained non-IFRS measures; reduction in line items about the segments such as depreciation, gross margin,

capital expenditure, segment liabilities, cash flows; inconsistent application of entity-wide disclosures; lack of comparability in segment performance etc.). (IASB, 2013b)

The IASB does not *"think that these concerns warrant a revision of the principles on which the Standard is based..."*. (IASB, 2013b, p6) However, some suggestions of the participants (more guidance on the use of CODM or replacement of CODM with another term; application guidance with examples how the reconciliations should be presented; disclosure of 3-5 years' comparative information in the event of reorganisation and guidance on the aggregation of operating segments) will be further studied by the IASB staff.

The Financial Accounting Foundation (FAF) in the US has also carried out a PIR on SFAS 131. The PIR report on SFAS 131 was published in December 2012. (FAF, 2012) The PIR report concluded that SFAS 131 is working effectively and provides more segmental information than the previous standard with enhanced relevance (e.g. less aggregated segment information; more information about each segment; more consistency between segment information and information presented elsewhere in the company's Annual Report). However, some guidance could further improve the quality of the segment information (e.g. on the identification and aggregation of operating segments). (FAF, 2012)

> *"We will discuss the Report's findings in detail ... with the IASB staff to coordinate an evaluation of the issues in an attempt to maintain a converged approach to segment reporting."* (FASB, 2013, p6)

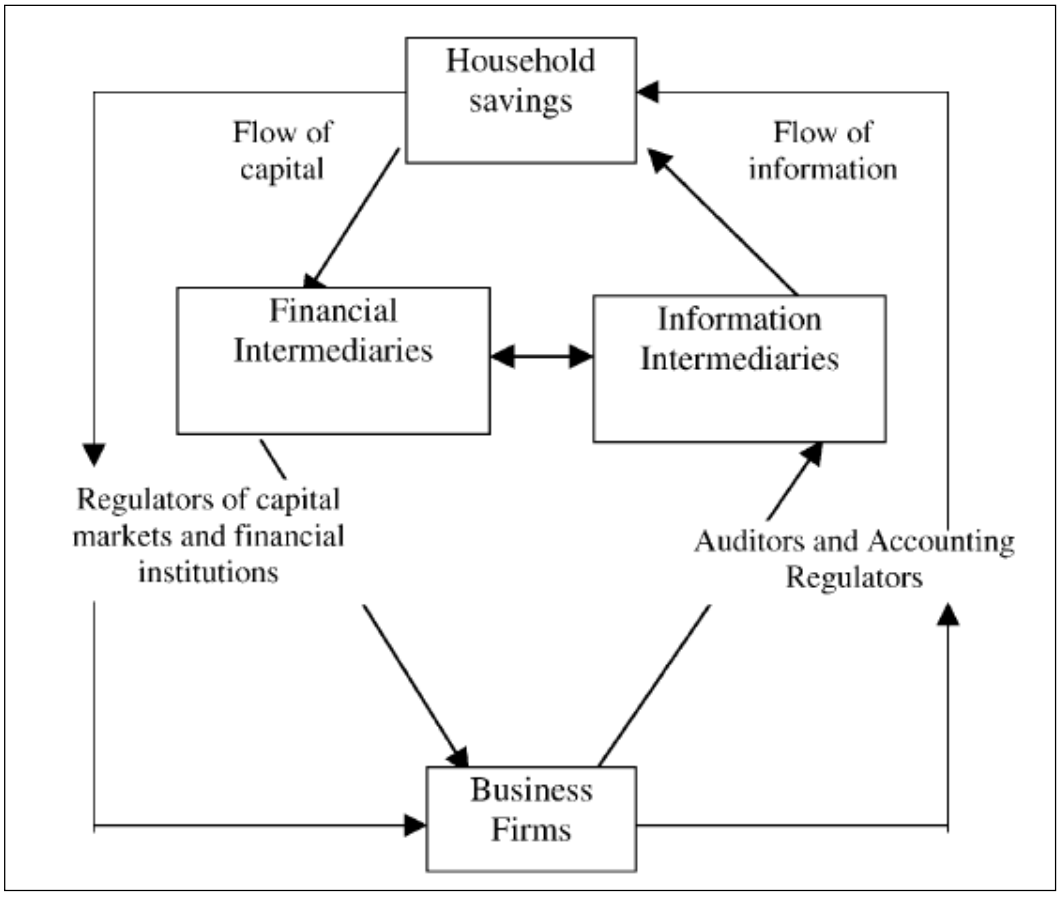
Since IFRS 8 is substantially converged with SFAS 131 the IASB and FASB is going to work together on the issues raised. (FASB, 2013; IASB, 2013b)

The issues raised during the PIR review of IFRS 8 are in line with the concerns expressed before the introduction of the standard. A few of the issues might be addressed by the IASB (and FASB) later with guidance on the application of the standard's requirements. However, it seems that some ongoing issues (e.g. the use of non-IFRS measures; the disclosure of geographic information) are not going to be addressed in the near future. (see more in Section 6.1)

2.3 Theoretical framework

Information asymmetry (between managers and investors; between different types of investors) raises the demand for corporate information which is critical for the efficient allocation of available resources therefore for the functioning of an efficient capital market. Companies provide information thorough several forms such as regulated financial reports (mandatory and audited), voluntary communications and disclosures (e.g. press releases, media, company's website, and presentations for analysts). In addition financial intermediaries (e.g. financial press, analyst, experts) also provide information about companies. (Healy and Palepu, 2001; Bushman and Smith, 2001; Figure 2.2)

Figure 2.2: Financial and information flows in a capital market economy



source: Healy and Palepu, 2001, p408

Thus, beside other forms, companies provide information thorough their mandatory and audited financial reports. (Healy and Palepu, 2001; Bushman and Smith, 2001) However, considerable managerial discretion and a great deal of professional judgement was / is allowed how the accounting standards were / are applied by the companies in generating

financial reports. Companies with different characteristics apply different accounting policies. (Watts and Zimmerman, 1986; Jensen and Meckling, 1976)

IFRS 8 sets out disclosure requirements for the companies. However, the application of the standard, the compliance with its requirements and the disclosure of any voluntary segment information (together the company's disclosure practice) depend on the companies' disclosure policy. The managers' perceptions of advantages / benefits and disadvantages / costs associated with segment disclosure influence their interpretation of segment disclosure standards and the level of segment disclosure (quality, compliance) they provide.

> *"…a single universally accepted basic accounting theory does not exist at this time. Instead, a multiplicity of theories has been – and continues to be – proposed"* (AAA, 1977, p3)
>
> *"Disclosure is inherently a complex phenomenon, and a single theory can only give a partial explanation".* (Hope, 2003a, p220)

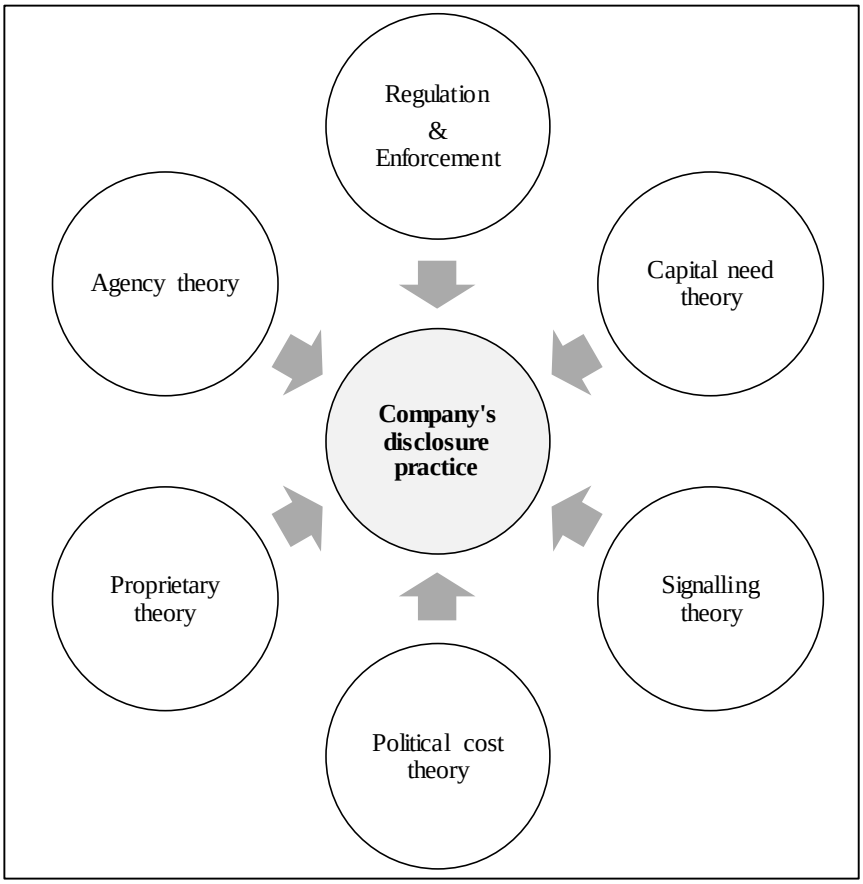
Disclosure studies suggested several theories to explain the motivations behind the companies' disclosure practice. Agency, signalling, capital need, political cost, proprietary and regulation theories are the most common theories to explain the differences in disclosure practice of companies and in their level of compliance with IFRSs. (Figure 2.3) These theories and findings of previous empirical studies (Section 2.4) are used to develop hypotheses in this thesis as well. (Section 5.4 and Section 6.2.) A brief summary of the above mentioned theories is provided in the following part of this section.

Agency theory

Jensen and Meckling (1976) define *"an agency relationship as a contract under which one or more persons (the principal(s)) engage another person (the agent) to perform some service on their behalf which involves delegating some decision making authorities to the agent".* (p5) They argue if the parties are utility maximisers the agents (managers) do not always act in the best interest (maximise the welfare) of the principals (owners, creditors). Agency costs incur to solve this "agency problem". However, these costs can be reduced by audited accounting reports and information disclosed in these reports. Financial accounting information provides input to both internal (e.g. managerial incentive plans) and external (e.g. shareholder and debt holder monitoring, competition,

laws protecting outside investors) control mechanisms. (Jensen and Meckling, 1976; Bushman and Smith, 2001) It can be argued that increased disclosures reduce agency costs (negative relationship).

Figure 2.3: Theories to explain the motivation behind the companies' disclosure practice



Segmental reporting is an important source for users to better understand and evaluate the performance of diversified companies. However, managers have both the incentives (the importance of segment disclosures to investors, lower cost of capital, reduced market riskiness, better prediction of future earnings etc.; Section 2.4.5) to disclose better quality segmental disclosure[7] and the opportunity to hide (segment definition, materiality level, cost allocation between segments etc.) unresolved agency problems (e.g. poorly performing business or geographical segments, managerial empire building). (Section 2.4.3) Research found evidence that managers use segment aggregation (Berger and Hann, 2002 and 2007; Wang et al., 2011) and segment level earning management (Hann and Lu, 2009) when disclosing segment information. More disaggregated information can

[7] e.g. more disaggregated, more items by segments, higher level of compliance etc.

attract greater external monitoring by revealing a company's diversification strategy, resource allocation between segments, and underperforming segments. (Berger and Hann, 2002 and 2003) Earning management of segment profits (by e.g. allocating overhead cost between segments, Hann and Lu, 2009; cross-segment resource transfers, Wang and Ettredge, 2014) could limit the monitoring usefulness of segment disclosures by concealing information from users. It can be argued that when segmental disclosure quality is reduced the shareholders ability to monitor managers and their actions decreases as well. (Hope and Thomas, 2008)

Proprietary theory

The purpose of disclosure is to reduce information asymmetry. Agency, signalling, capital need and political cost theories generally suggest that companies are motivated to disclose more information in their financial statements and to comply with mandatory disclosure requirements of accounting standards. However, disclosures to external users may also include proprietary information *("information whose disclosure reduces the present value of cash flows of the firm endowed with the information"*; Dye, 1986, p331) which could be also observed and used by the company's current and potential competitors or any other party (e.g. dissident shareholders, employees, tax authority) to the disadvantage of the disclosing company. Therefore, when deciding how much information to disclose, companies face a trade-off between the benefits of disclosing information to capital markets (incentives to reveal) and the cost of revealing proprietary information (incentives to conceal). (Dye, 1986; Hayes and Lundholm, 1996; Leuz, 2004)

However, capital market benefits and proprietary costs depend on whether the information is available elsewhere or not. Information on segments usually is not available elsewhere than in the companies' financial statements. (Leuz, 2004)

Segment disclosure provided by companies is affected by the managers' incentive to avoid potential harm and maintain competitive advantages. Segment disclosure studies indicate that the level / quality of segment disclosure is limited by the proprietary cost associated with the disclosure of more detailed information to the market. Companies use less detailed and lower quality segment disclosures (e.g. greater segment aggregation, Berger and Hann, 2002, Botosan and Stanford, 2005; less item per segment, Pisano and Landriana, 2012; smaller cross-segment variability of reported profits, Ettredge et at., 2006; smaller cross-segment variability of segment earnings growth rate, Wang et al.,

2011; greater difference between aggregated segment earnings and corporate level income, Wang and Ettredge, 2014; smaller percentage of revenues disclosed by individual foreign countries, Tsakumis et al., 2006; non-disclosure of information about major customers, Ellis et al, 2012) to protect proprietary information and deter entry by competitors (Nagarajan and Sridhar, 1996; Schneider and Scholze, 2011). Additionally, there seems to be a positive relationship between the levels of competition on the market and the level / quality of segmental information disclosed by the companies. Thus, companies operating in more (less) competitive industries more likely to provide more (less) segmental information because the higher (lower) level of competition may decrease (increase) the competitive harm associated with segment disclosure (e.g. Hayes and Lundholm, 1996; Harris, 1998; Botosan and Stanford, 2005; Birt et al., 2006; Pisano and Landriana, 2012) (Section 2.4.4)

Regulation and Enforcement

Accounting and accounting profession are subject to many regulations such as Accounting Standards, Companies Act, Stock Exchange regulations, EU Regulations etc.. Since 01 January 2005 all group financial statements of listed companies in member states of the EU must comply with the IASs / IFRSs set by the IASB and endorsed by the EU. The IASB adopted a principles based approach where the basic question is whether the accounting policy applied by a company complies with the intention behind the regulation or not. (Gaffikin, 2005) The regulatory requirements will not result in quality financial reporting if the companies do not comply with the rules. Thus, de facto compliance with the requirements of an accounting standard is just as important as the accounting standard itself.

Researchers suggested that the monitoring and enforcing mechanism (effective company control systems, independent auditor, oversight body) of IFRSs requirements are important components of the implementation of accounting standards. (e.g. Brown and Tarca, 2005; Street and Bryant, 2000; Glaum and Street, 2003; Prather-Kinsey and Meek, 2004; Hodgdon et al., 2009) However, the question is how effective is the enforcement of the regulations?

It is well documented by research that there is considerable non-compliance with IASs / IFRSs requirements. The results from these studies also indicated that the compliance with IASs / IFRSs requiring the disclosure of more proprietary information was usually

below the average level of compliance. (Street and Bryant, 2000; Al-Shammari et al., 2008; Tsalavoutas, 2011) Segmental reporting is one of the areas of particular concern. (Street and Bryant, 2000; Street and Gray, 2001 and 2002; Al-Shammari et al., 2008; Tsalavoutas, 2011; Crawford et al., 2012a; Nichols et al., 2012; Pisano and Landriana, 2012; Pardal and Morais, 2011; Mardini, 2012) Thus, the implementation of high quality global standards many not necessarily lead to high quality, comparable reporting.

Political cost theory

Along with other theories political cost hypothesis is suggested to explain the financial disclosures of the companies. Watts and Zimmerman (1978) argue that politicians have the power / authority to affect the wealth re-distribution of the companies by taxes, regulations, contributions etc. (political costs). The authors argued that politicians and government bureacrats are responsible for regulating financial reporting and they are influenced by the likelihood of being blamed for any future crisis. Many crises have led to changes in corporate regulation and, in particular, to increased regulation in financial reporting (e.g. the Sarbanes-Oxley Act 2002 in the US was a reaction to a number of high profile corporate and accounting scandals including e.g. Enron and WorldCom). Additionally, certain groups of people have incentives to lobby for the *"nationalisation, expropriation, break-up regulation of an industry or corporation"*. (p115) This provides incentives to politicians to suggest these actions in order to reduce the pressure. The expected degree of political costs is subject to a company's size, profitability and its industry. It is argued that larger, more profitable companies and companies belonging to special industries (e.g. oil and gas companies) are more politically visible and are subject to potentially greater wealth transfers from government interventions. Therefore, to reduce the expected political costs, the managers of these companies (among other things such as social responsibility campaign in the media, lobbying, selection of accounting policies etc.) have greater motivation to disclose more information than the managers of smaller, less profitable companies and companies in other industries. (Watts and Zimmerman, 1978, 1986, 1990) This suggests a positive relationship between political costs and disclosure quality.

However, Wallace et al. (1994) and Wallace and Naser (1995) argued that comprehensive disclosure may trigger political action. Additionally, it can be argued that the preparer's desire to conceal the companies' tax avoidance can also negatively influence the companies' disclosure quality. (Hanlon and Heitzman, 2010; Hope et al., 2013) Thus,

companies may disclose less information to limit political interest and actions. It makes difficult to predict the sign of the relationship between the company's disclosure quality and political costs.

Signalling theory (Legitimacy theory)

Signalling theory shows how information asymmetry can be reduced by the party with more information providing it to others. (Morris, 1987) Signalling through Financial Statements can be used by managers to signal their expectations and intentions, to reassure the market and to distinguish themselves from lower quality firms (Hughes, 1986, Lev and Penman, 1990, Watson et al., 2002). Companies may disclose information to sustain and legitimise corporate actions and relationships by presenting themselves as responsible corporate citizens (legitimacy theory). (Adams and Roberts, 1995) Watson et al. (2002) argue that *"signalling theory can borrow from legitimacy theory the notion of signalling legitimacy"*. (Watson et al., 2002, p293) Thus, in this study legitimacy theory is not considered as a separate theoretical background to explain the companies' disclosure quality.

Capital need theory

Companies compete in the capital market to raise capital (equity or debt instruments) as cheaply as possible. Capital need theory suggests that one of the main motives of financial disclosure is to address the information needs of the capital market users (shareholders, debt providers, financial analysts etc.) and reduce their uncertainty with respect to the company's present and future. Research suggests that the precision, the quality, the quantity and the timeliness of disclosed financial information reduces the cost of equity capital by reducing information asymmetry (reduced information risk, estimation risk, transaction costs and enhanced stock market liquidity). (Choi, 1973 and 1974; Dhaliwal, 1979; Dhaliwal et al., 1979; Elliott and Jacobson, 1994; Botosan, 1997; Leuz and Verrecchia, 2000; Botosan and Plumlee, 2002; Easley and O'Hara, 2004; Botosan, 2006; Cheng et al., 2006; Lambert et al., 2007; Saini and Herrmann, 2011) Companies disclose more information to reduce investor's uncertainty with respect to the company's present and future.

Theories, and the findings of prior literature, can help to derive possible factors associated with the companies' segment disclosure practice and their compliance with the disclosure requirements of IFRS 8 and from testable hypotheses (Section 5.4 and 6.2).

The theories summarised in this section were used by most of the researchers to study the companies' segmental disclosure practice and to explain variation in segmental reporting disclosures. However, in these studies generally more emphasis is given to agency (Section 2.4.3), proprietary (2.4.4) and regulation (5.2) theories than to signalling, capital need and political cost theories. The studies and their findings are introduced in the next section. (Section 2.4)

2.4 Literature Review

Studies related to segment disclosure and the impacts of the changes in segment disclosure standards follow at least three lines of research.

1. Studies primarily focusing on the quality and fineness of the segment information disclosed in financial statements. (Section 2.4.1 and Section 2.4.2)
2. Studies examining preparers' decisions and the possible reasons (e.g. proprietary and agency costs) behind their decisions. (Section 2.4.3 and Section 2.4.4)
3. Studies examining the usefulness of segment disclosures (e.g. users' decision making, forecast accuracy and predictive ability, market reactions). (Section 2.4.5) (Aleksanyan, 2004; Roberts, 2010)

These Sections provide an overview of the research findings. Studies are grouped together and introduced in relation to the above mentioned main lines of research. The first and second lines of research are directly related to this study. Therefore, they are disclosed in detail. For the third line of research a summary is provided.

Most of the studies introduced in the Literature Review (Section 2.4) were carried out on US samples after the introduction of SFAS 131. A few studies on the impact of IFRS 8 have already been published but most of the studies are unpublished working papers.

2.4.1 Quality of the segment information _ Operating segment disclosure

There is a large body of research which focuses on the changes in disclosure quality associated with the adoption of new segment disclosure standards (SFAS 14 → SFAS

131; IAS 14 → IAS 14R; IAS 14R → IFRS 8). These studies are introduced in Section 2.4.1 and in Section 2.4.2.

In 1997 FASB issued SFAS 131 to address the critics of SFAS 14 (e.g. lack of segment definition; broad, artificial aggregated segments; segment disclosure did not reflect the companies organisational structure etc.) The new disclosure standard changed the previous "risk and reward approach" to the "management approach". (Roberts, 2010) Several articles examined the impact of the new regulation on the US companies' segment disclosures.

Two articles (Herrmann and Thomas, 2000; Street et al., 2000) comparing the US companies segment disclosure under SFAS 131 and SFAS 14 were published in the same Accounting Horizons issue in 2000 (Volume 14, No. 3). Herrmann and Thomas (2000) analysed the business (operating segments based on product and services) as well as the geographic segment disclosure changes. Whereas Street et al. (2000) primarily concentrated on the business segments. Additionally, Street et al. (2000) studied the change in consistency between the companies' segment disclosures and their other annual report disclosures.

Under SFAS 131 the majority of the companies determined reportable operating segments based on products and services. The number of firms providing segment disclosure increased. Thus, SFAS 131 effectively reduced the number of single-segment companies. The companies reported a greater number of segments under the new approach. The average number of reported operating segments increased significantly. As a result of the additional requirements of SFAS 131 (such as interest income and expense; income tax expense / benefit; other non-cash items included in net profit / loss; unusual items) the number of reported items for each operating segments increased. Herrmann and Thomas (2000) found a significant increase in the average number of items (from 5.5 to 6.3). On the other hand, only a relatively low percentage of the companies disclosed voluntarily items such as liabilities, segment cash flow, R&D. (Herrmann and Thomas, 2000; Street et al., 2000) This is in line with Nagarajan and Sridhars' (1996) theory that increasing disclosure requirement can decrease the companies' value relevant disclosure.

Additionally, Street et al. (2000) found that the level of inconsistency of segment information with other parts of annual report reduced significantly under SFAS 131 (Introductory Annual Report Information: from 43% to 14%; Management Discussion and Analysis, MD&A: from 25% to 8%).

In summary, the two studies found that operating segment reporting improved under SFAS 131 (number of segments reported, number of items reported, decreased number of single-segment companies). However, the limited voluntary disclosure of operating segment items and inconsistent reporting by a significant minority of companies are of some concern. (Herrmann and Thomas, 2000; Street et al., 2000)

When researchers investigated whether the introduction of the new segment disclosure standard improved companies' segment disclosure they usually compared the number of reported segments before and after the introduction of the new segment disclosure standard. These studies interpreted the increase in reported segment number as an improvement in segment disclosure. (Herrman and Thomas, 2000b; Street et al., 2000; Street and Nichols, 2002; Berger and Hann, 2003; Prather-Kinsey and Meek, 2004)

However, Berger and Hann (2003) admit that the change in the number of reported segments is not the best measure of segment disclosure but a good starting point. Therefore they examined additional measures of segment disaggregation (1. the ratio of the number of reported segments to the number of business activities; 2. revenue-based Herfindahl index) which also indicated significant increase in disaggregation under SFAS 131.

Furthermore, Ettredge et al. (2006) argue that comparing the segment numbers under the old and the new regulation *"is appropriate for firms that were managed as multiple segment firms before SFAS No. 131 but were not reported as such until after SFAS No. 131. (e.g., single to multiple segment reporters)".* (p92) They found that the number of reported segments increased from one to three for previously single segment companies but predominantly did not change for multi-segment companies. For companies which were managed and reported as multiple segment companies before and after SFAS 131 the effect of the new regulation could be an increase, decrease or no change in the reported segment number. Therefore, instead of comparing the reported segment numbers researchers used two alternative measures: (1) the cross-segment variability of reported

profit (the range of the reported segment profits) (Ettredge et al., 2006), and (2) the cross-segment differences in earnings growth (Wang et al., 2011). SFAS 131 allows the aggregation of segments with similar economic characteristics (e.g. profitability). The authors argue that the implementation of SFAS 131 should have resulted in an increased cross-segment variability of reported segment profit and earnings growth. Further analysis of multi-segment companies revealed that the introduction of SFAS 131 increased the cross-segment variability of reported profit and earnings growth. (Ettredge et al., 2006; Wang et al., 2011) The results indicate that the new management approach increased transparency of segment profit disclosures.

A major difference between SFAS 14 and SFAS 131 was the adoption of the management approach. This new approach intended to address the users concern that the segment disclosure under SFAS 14 did not faithfully represented the companies' internal organisation of business activities. Botosan et al. (2009) found that after the adoption of SFAS 131 companies changed their segment definition to increase the alignment of their segment reporting with their internal organisational structure.

Under SFAS 131 firms are allowed to choose their own definition of segment profit. Researchers argue that it makes difficult to assess profitability and complicates comparisons (different profit definition, difficulty to identify the profit definition employed). (Street et al., 2000; Botosan and Stanford, 2005; Berger and Hann, 2007)

Furthermore, the management approach allows managers to measure segment earning differently (non-GAAP numbers) than is required for the entity level corporate earnings (accordance with GAAP). This means that the sum of the company's segment earnings does not need to be equal to corporate level earnings. (Wang and Ettredge, 2014)

Wang and Ettredge (2014) studied a large sample of US multiple segment companies segment reporting practice and found that 78% of their sample firm-year observations had gaps (defined as the difference between the summed segment earnings and the company's consolidated earnings). Interestingly, Wang and Ettredge (2014) found that aggregated segment earnings ("pro-forma" or "core" earnings: earnings without transitory and non-cash components such as corporate intangibles, special or unusual items, existence of merger or acquisition) are more persistent (measured by its association with the future aggregated segment earnings) and more informative (measured by its

association with current stock returns) than corporate earnings. However, the incomplete allocation also can be a management tool to mislead investors if it is motivated by proprietary and / or agency costs.

While standard setters in the US and Canada worked on SFAS 131 the International Accounting Standards Committee (IASC) revised IAS 14 and issued IAS 14R in 1997. The new standard provided clearer guidance for segment definition and introduced some additional disclosure requirements (such as liabilities, capital additions, depreciation, equity method income, other non-cash items for the primary segments and capital addition for the secondary segments). Just like SFAS 131 IAS 14R introduced the "management approach" but it kept the former "risk and reward approach" as well. If primary segment determined under the management approach did not have similar risk and reward characteristics, the primary segments needed to be defined on the basis of risk and reward approach. (Street and Nichols, 2002; Prather-Kinsey and Meek, 2004; Roberts, 2010)

Street and Nichols (2002) examined the disclosure practice of a global sample of 210 companies, referring to the use of IASs, before and after the introduction of IAS 14R. They found that the percentage of the single segment companies decreased under IAS 14R but a third of the sample companies still claimed to operate in one segment. Further analysis of the annual reports revealed that many of these companies probably had more than one segment. IAS 14R increased the number of items to be disclosed for primary segments which resulted in a significant increase in the number of items reported by segments. The research findings also suggest that the level of consistency between the segment information and the other parts of the annual report increased significantly after the introduction of IAS 14R (Introductory annual reporting information: from 74% to 81%; Management discussion[8]: from 76% to 86%). However, a significant minority of the companies continued to disclose segment information that was inconsistent with other parts of the annual report.

In a later study Prather-Kinsey and Meek (2004) complemented Street and Nichols (2002) research. In line with Street and Nichols's (2002) results the authors found that the

[8] Management Report / Financial Review

introduction of IAS 14R resulted in more segment information disclosure (number of segments and items reported).

Research reveals that the changeover from SFAS 14 to SFAS 131 and from IAS 14 to IAS 14R has led to more segment information. It is argued that by increasing information disaggregation the new standard induced firms to reveal previously hidden information. Companies which reported a single segment under SFAS 14 and under IAS 14 tend to report multiple segments under SFAS 131 and under IAS 14R. (Street and Nichols, 2002; Berger and Hann, 2003; Botosan and Stanford, 2005; Botosan et al., 2009) The number of segments has increased and more elements per segment have been disclosed. (Street et al., 2000; Herrmann and Thomas, 2000; Street and Nichols, 2002; Berger and Hann, 2003; Prather-Kinsey and Meek, 2004; Paul and Largay, 2005) Research results suggest that external reporting is now more aligned with companies' organisation structure. (Botosan et al., 2009) Furthermore, the introduction of SFAS 131 increased the consistency of segment report with other annual report disclosures. (Street et al., 2000; Nichols et al., 2000; Street and Nichols, 2002)

The IASB and the EC expected that the impact of IFRS 8 would be similar to the impact of SFAS 131. (EC, 2007) However, research found evidence that the introduction of IAS 14R[9] has already resulted in a significant increase in the number of segments and items disclosed for each segment and a decline in the number of single-segment companies. (Street and Nichols, 2002; Prather-Kinsey and Meek, 2004) Additionally, while the introduction of SFAS 131 was a *"full move to the management approach"* the introduction of IFRS 8 *"reflects a shift to the pure management approach, without the IAS 14R risks and rewards qualification."* (Nichols et al., 2013, p265) Thus, the impact of IFRS 8 might be less significant. Furthermore, different economical and legal environment, culture etc. of non-US companies may result in a different response to the new regulation. (Roberts, 2010)

IFRS8 is effective from financial years starting on or after 1 January 2009. The standard moved the international segment disclosure regulation into line with SFAS 131. The IFRS 8 related studies mostly focused on the first adoption of the management approach. Research on the longer-term impacts of IFRS 8 currently is not available.

[9] effective from 1998

Literature on the impacts of the introduction of SFAS 131 and IFRS 8 was recently reviewed by Nichols et al. (2013). Additionally, a document that reviews the findings of academic literature on the effect of the application of IFRS 8 made by the IASB during the PIR of IFRS 8 is also available. (IASB, 2013b) These reviews (1) report on the advantages and disadvantages of the application of the management approach and (2) identify areas for further research.

Based on interviews with key stakeholders (preparer, regulator, legislator, auditor, institutional investor, user) Crawford et al. (2012a) found that the interviewees were not very concerned about the changes introduced by the new standard and they had positive expectation that the management approach might provide information how the companies are actually managed. The interviewees expressed some concerns about the disclosure of non-GAPP information and the identity of CODM.

Heem and Valenza (2010) examined the impacts of IFRS 8 on the half-yearly report of a sample of French companies. The authors found that the mean number of operating segments disclosed did not change and majority of the companies used the same business report segmentation under IAS 14R and IFRS 8. The authors concluded that the companies' already defined and reported segments aligned with their internal reporting. Furthermore, there was only a little effect (decrease) on the number of items reported (mean: IAS 14R: 2.06 → IFRS 8: 1.94)

Crawford et al. (2012a) analysed the segmental notes[10] (last under IAS 14R and first under IFRS 8) of 150 UK (99 FTSE 100 and 51 FTSE 250) listed companies to find out whether the introduction of IFRS 8 changed the segmental disclosure of the sample companies. Additionally, they interviewed preparers (6), auditors (7) and users (7) about the usefulness of information provided under the new standard. Crawford et al. (2012a) found that although the number of reported segments has not been changed by more than half of the companies, the average number of segment disclosed increased (e.g. for business segments from 3.30 to 3.56) under IFRS 8. However, the key items disclosed by the companies for each segments decreased because many companies stop providing

[10] The rest of the annual reports were also looked through for evidence of segments (consistency).

information on important segment items such as liabilities, total assets and capital expenditures.

Crawford et al. (2012a) recommended for the IASB to provide some guidance on issues raised during the interviews such as (1) the materiality threshold for defining and aggregating segments, (2) the purpose and nature of entity-wide disclosures. They also suggested that the IASB should consider changing IFRS 8 to require (1) the disclosure of the CODM's identity and (2) an explanation of the differences between the number of segments reported in the segment notes and the number of business / geographic units mentioned elsewhere in the entity's annual report.

Nichols et al. (2012) examined the impact of adopting IFRS 8 on the segmental disclosures of 335 European[11] blue chip companies. The authors excluded UK companies from their sample because Crawford et al. (2012a) had already studied the impact of IFRS 8 on the disclosure practice of UK listed companies. The research focused on the benefits anticipated by the IASB when issuing the new standard and the concerns expressed by different stakeholders and regulators. Just like Crawford et al. (2012a) they found that (1) the majority of the companies reported the same number of segments and on average the sample companies reported significantly more segments under IFRS 8 than under IASB 14R and (2) many companies stopped providing key items by segments (e.g. segment liabilities, capital expenditures) therefore the average number of items disclosed for each segment decreased significantly.

The findings of Crawford et al. (2012a) and Nichols et al. (2012) are in line (e.g. increased number of segments, decrease in reported items by segments, disclosure of finer geographic information[12] etc.). However, their results on (1) the use of non-IFRS measures and (2) inconsistency between segment notes and other parts of the companies' annual report are partially different. Nichols et al. (2012) found a lack of comparability in segment profitability measures and extensive use of non-IFRS profitability measures. However, Crawford et al. (2012a) found that only 6% of the sample companies referred to the use of non-IFRS measures under IFRS 8. Street and Nichols (2002) found that the consistency between the companies' segmental notes and the other parts of their annual

[11] Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Italy, Luxemburg, the Netherlands, Norway, Spain, Sweden and Switzerland
[12] see in Section 2.4.2

report increased with the introduction of IAS 14R. Thus, Nichols et al. (2012) did not expect significant increase in consistency after the adoption of the management approach. The authors found that only 4% of the sample companies had inconsistent reporting (single segment companies were the most problematic ones). The authors conducted, the sample companies had already had consistent reporting under IAS 14R. However, Crawford et al. (2012a) found that *"there appears to be some inconsistency in the annual reports between the segmental note and the narrative sections of the annual report for both FTSE100 and FTSE250 companies."* (p27)

IFRS 8 introduced the management approach but the standard does not require the disclosure of the identity of the CODM. Research found that a relatively high percentage of the companies do not voluntarily identify the CODM in the segmental disclosures. (Crawford et al., 2012a → 31%; Nichols et al., 2012 → 64%; Kang and Gray, 2013 → 18%; Mardini et al., 2012 → 38%) Crawford et al. (2012) and Mardini et al. (2012) argue that the non-disclosure of the identity of CODM could negatively affect the usefulness of segment information and *"appears to be a lost opportunity for companies to provide useful information to their stakeholders."* (Crawford et al., 2012a, p22)

The introduction of IAS 14R had already increased the number of items disclosed for each segments. (Street and Nichols, 2002; Prather-Kinsey and Meek, 2004) Under IAS 14R items required by the standard always needed to be reported. However, under IFRS 8 most items only need to be disclosed if regularly reported to the CODM. Thus, the disclosure of most items is voluntary. A company could have used the freedom provided by IFRS 8 and could have reduces the number of items disclosed by claiming that its CODM does not use certain items for assessing the business. On the other hand, a company could have increased the number of items disclosed for each operating segments if its CODM uses more information than was required under IAS 14R. (Pisano and Landriana, 2012) The majority of the studies found that the average number of reported segment items decreased under IFRs 8. (Nichols et al., 2012; Crawford et al., 2012a; Heem and Valenza, 2010; Bugeja et al, 2012) However, Mardini et al. (2012) and Pisano and Landriana (2012) found increase in the average number of reported segment items for a sample of companies from Jordan and Spain. Nichols et al. (2013) suggest that the introduction of IFRS 8 might have greater impact in countries where the level of disclosure and / or compliance was lower under IAS 14R.

Table 2.3 Studies on the impacts of the management approach on the quality of the reportable segment disclosure

Impact of the new regulation	Accounting Standard	
	SFAS 131	**IFRS 8**
Panel A: Positive Impact		
the number of single-segment companies reduced	Herrmann & Thomas, 2000b Street et al., 2000 Berger & Hann, 2003 Botosan & Stanford, 2005 Ettredge et al., 2006 Botosan et al., 2009	Nichols et al., 2012
the average number of reported segments increased	Herrmann & Thomas, 2000b Street et al., 2000 Berger & Hann, 2003 Paul & Largay, 2005	Nichols et al., 2012 Crawford et al., 2012a Pisano & Landriana, 2012 Kang & Gray, 2013 Mardini et al., 2012 Bugeja et al., 2012
the average number of reported segment items increased	Herrmann & Thomas, 2000b Street et al., 2000 Berger & Hann, 2003 Paul & Largay, 2005	Mardini et al., 2012 Pisano & Landriana, 2012
the alignment of the segment reporting with the company's organisational structure increased	Botosan et al., 2009	
inconsistency of segment information with other parts of the annual report reduced	Street et al., 2000 Nichols et al., 2000	
segment disaggregation increased	Berger & Hann, 2003	
cross segment variability of reported profit / differences in earning growth increased	Ettredge et al., 2006 Wang et al., 2011	
Panel B: Neutral Impact		
majority of the companies determined reportable operating segments based on products and services	Herrmann & Thomas, 2000b Street et al., 2000 Berger & Hann, 2003 Ettredge et al., 2006	Nichols et al., 2012 Pisano & Landriana, 2012 Pardal & Morais, 2011 Kang & Gray, 2013
no change in the number of reported segments for the majority of the companies	Ettredge et al., 2006	Heem and Valenza, 2010 Bugeja et al., 2012 Crawford et al., 2012a Nichols et al., 2012 Pisano & Landriana, 2012 Kang & Gray, 2013
companies use non-IFRS earning measures		Nichols, et al., 2012

Table 2.3 (continued) Studies on the impacts of the management approach on the quality of the reportable segment disclosure

Impact of the new regulation	Accounting Standard	
	SFAS 131	**IFRS 8**
Panel C: Negative Impact		
the average number of reported segment items decreased		Nichols et al., 2012 Crawford et al., 2012a Heem and Valenza, 2010 Bugeja et al., 2012
decline in disclosure of segment assets and liabilities		Nichols et al., 2012 Crawford et al., 2012a
inconsistency of segment disclosure with other Sections of the annual report		Crawford et al., 2012a
difficulty to assess profitability and compare companies earnings increased (different definitions of segment profit)	Street et al., 2000 Botosan & Stanford, 2005 Berger & Hann, 2007	Nichols et al., 2012
difference between total segment (non-GAAP measures) and consolidated data (GAAP measures)	Wang & Ettredge, 2014	
relatively high proportion of the companies do not disclose the identity of the CODM		Crawford et al., 2012a Nichols et al., 2012 Kang and Gray, 2012 Mardini et al., 2012
lack of comparability in segment profitability	Street at al., 2000 Botosan & Stanford, 2005 Berger & Hann, 2007	Nichols et al., 2012

The general decrease in the number of reported items indicates that although the content of SFAS 131 and IFRS 8 is almost exactly the same, their impacts on the segmental disclosure practice of the companies are not. (Table 2.3)

2.4.2 Quality of the segment information _ Geographic information disclosure

The globalisation and the rise of multinational companies increase the importance of geographic information. Different geographical areas exhibit different risk and return profiles due to differences in their culture, legal and tax environment, fiscal and monetary policies, economic development, governmental regimes etc.. Therefore, information about different geographic segments can help the users to understand different risks, growth prospects and economic conditions associated with different geographic areas.

Geographic segment information provided under SFAS 14 was criticised by both the academic and financial community (e.g. broad classification, limited number of geographic segments, non-comparable and highly aggregated geographic information etc.). (Herrmann and Thomas, 1997 and 2000; Nichols, et al., 2000)

Herrmann and Thomas (1997) demonstrated that although there is theoretical support (Fineness Theorem, Earnings Capitalisation Model, Signalling and Portfolio Model) for the usefulness of geographic segment information, empirical research result only provides some support that geographic disclosure result in greater usefulness under SFAS 14. Based on the theories and previous empirical findings they analysed the potential impacts of the proposed SFAS 131 on the usefulness of geographic segment disclosures. Herrmann and Thomas (1997) argued that the impact of the proposed new regulation on the quality of segment disclosure will depend on how companies define their operating segments under the management approach. The proposed new standard should increase the quality of geographic disclosure for companies defining their operating segments on geographic basis. However, if companies decide operating segments other than geographic areas, the new approach may not improve the geographic information disclosure. These companies only have to provide limited geographic disclosures under the proposed new standard. Additionally, the new regulation removes the 10% materiality threshold and leaves the materiality judgement to the management which likely to result in an increased level of aggregation.

In their later study Herrmann and Thomas (2000) analysed the actual impact of SFAS 131 on the segment disclosure practice of 100 large US companies. They found that the proportion of companies providing country-level geographic segment disclosure under the new regulation increased and there was a decrease in the use of broader geographic area segments. Thus, the fineness of geographic information improved. However, the mean (median) number of items disclosed by geographic segments decreased from 3.3 (3) to 2.2 (2). Most of the companies reported only the revenues and assets required by SFAS 131 and the disclosure of geographic segment earnings decreased significantly (this is not required any more so it is voluntary). The authors argue that the fineness of geographic disclosure may increase under SFAS 131 (country-level disclosure) but the provided information might be less useful for the users (in terms of items disclosed). Furthermore, broad geographic area disclosures still continued under SFAS 131.

Consistent with Herrmann and Thomas (2000) Nichols et al. (2000) found that although the introduction of SFAS 131 resulted in many improvements, several concerns remained. They found that under SFAS 131 the percentage of companies reporting on a country-level basis significantly increased (from 4% to 28%) and the average number of reported geographic locations increased significantly (from 3.0 to 3.5). On the other hand, a significant group of companies continue to use broad geographic groupings and provided highly aggregated information. Thus, the new regulation did not solve the aggregation problem. Furthermore, SFAS 131 resulted in a loss of information about geographic earnings (only 15% of the companies reported voluntarily).

Additionally, Nichols et al. (2000) studied whether the management approach introduced in SFAS 131 improved the consistency within the annual report. Although the inconsistency between the geographic segment disclosure and the other parts of the annual report decreased significantly (Introductory Annual Report Information: from 38% to 8%; MD&A: from 23% to 15%) a small minority of the companies still reported inconsistent information within their Annual Report.

Doupnik and Seese (2001) studied the Fortune 500 companies' geographical disclosure before and after the introduction of SFAS 131. In line with previous results they found that the percentage of the companies providing country-level geographic disclosure increased significantly from 23.1% (under SFAS 14) to 45.3% (under SFAS 131). However, more than half of the sample companies did not disclose country-level geographical information under SFAS 131. Furthermore, a significant minority of the companies still disclosed mixed (country and continent level) and vague (e.g. Pacific; Europe/Middle East/Africa) geographic areas. In line with previous research results the authors found that 28.8% of their sample companies increased the number of areas reported. However, there was no change for the majority of the companies. Doupnik and Seese (2001) argue that the comparison of the number of the reported geographical areas under SFAS 131 and under SFAS 14 cannot measure perfectly the change in the disclosure fineness. Therefore, they combined *"the level of aggregation[13] represented by each area, and the percentage of foreign operation in that area"* (p124) to calculate a measure of fineness. The authors found that the fineness score increased for approximately 40% of the sample companies after the introduction of SFAS 131. On the

[13] Foreing/Other → Multi-continents → Continents → Countries

other hand, the fineness score decreased for more than 25% of the sample companies under the new disclosure requirement.

In contrast to SFAS 131 IAS 14R did not require country-level geographic disclosure. Street and Nichols (2002) found that after the introduction of IAS 14R the majority of their sample companies (55%) used broad, vague geographic grouping. Furthermore, IAS 14R no longer required the disclosure of profitability measures. As a result only less than a quarter of the sample companies disclosed earnings measures voluntarily under IAS 14R.

Crawford et al. (2012b) used content analysis of the comment letters to ED8 and 15 semi-structured interviews with key stakeholders (preparer, regulator, legislator, auditor, institutional investor, user) to study the potential impacts of the proposed new segmental reporting standards. The results of the comment letter analysis show that all stakeholders (preparer, user, standard setter, accountancy body/firm, other) were concerned about the potential negative impacts of ED8 proposals on the companies' geographic information disclosures. However, the authors found that the interviewees had little concern about the possible negative effect (disappearance of the geographic disclosures) of the implementation of IFRS 8. They believed, that companies will continue to provide both geographic as well as business segment information under the new regulation. (Crawford et al., 2010; Crawford et al., 2012b)

Aleksanyan and Danbolt (2012) analysed the segmental reporting practice of a sample of 127 non-financial listed[14] UK companies under SSAP 25, IAS 14R and IFRS 8. Their results indicate that the introduction of IAS 14R had limited effect on the number of segments reported by the sample companies. However, there was a significant increase in the number of reported segments under IFRS 8. Companies organised around geographical areas (business areas) reported higher (lower) number of geographical segments (LOB) under all three requirements. Across all regimes, more than a quarter of the reported segments based on heterogeneous geographical regions (broadly aggregated geographical areas). The findings also indicate that under IFRS 8 there was a substantial increase in the disclosure of single-country segments (SSAP 25 and IAS 14R: 30% → IFRS 8: 43%). However, this increase was driven exclusively by companies organised

[14] constituents of the FTSE 100 index

around business areas. Whereas, the percentage of single-country segments reported by companies organised around geographical areas decreased (SSAP 25: about 30% → IAS 14R and IFRS 8: less than 20%). The authors argue that companies organised around business areas can afford to provide more single-country disclosure because under IAS 14R and IFRS 8 they did / do not have to disclose any profitability measures. Thus, no additional proprietary cost associated with the more detailed information. However, there might be reputational benefits from disclosing (more) country related data. The authors also found significant decrease in the volume of profitability data (from 85% under SSAP 25 to 25% under IAS 14R and IFRS 8) which makes them question the effectiveness of IAS 14R and IFRS 8.

For a sample of 150 listed UK companies Crawford et al. (2012a) found that the companies disclosed more individual countries (finer geographic information). However, the authors also warn that *"it is possible that any countries not individually identified are being allocated to the rest of the world group."* (p24) The authors found that most of the companies stopped providing capital expenditure and total assets information by geographic locations. They argue, that although there has been an increase in disclosure of NCA information and most of the companies disclosed external revenues by geographic locations, the usefulness of the geographic segment disclosure might have reduced (no capital expenditure information, no current asset information within total assets).

Research results of Nichols et al. (2012) also indicate significant improvement in the fineness of geographic information disclosed under IFRS 8 by a sample of 335 European blue chip companies. On one hand, the companies started to provide country specific information, the use of broad, vague grouping decreased and on average, the number of geographic areas reported under entity-wide information increased significantly. On the other hand, the number of companies disclosing capital expenditure information for the reported geographic areas decreased.

The number of countries disclosed individually and therefore the aggregation and fineness of geographic information in the segmental notes depends on the preparers' materiality decision. Research on the companies' materiality judgements with regard to individual countries is introduced in Section 7.2.6.

Table 2.4 Studies on the quality of entity-wide information provided under the management approach

Impact of the new regulation	Accounting Standard	
	SFAS 131	**IFRS 8**
Panel A: Positive Impact		
county-level geographic segment disclosure increased	Herrmann & Thomas, 2000b Nichols et al., 2000 Doupnik & Seese, 2001 Hope, 2008	Nichols et al., 2012 Crawford et al., 2012a Mardini et al., 2012 Aleksanyan & Danbolt, 2012 Pardal and Morais, 2011
the average number of reported geographic locations increased	Doupnik & Seese, 2001 Nichols et al., 2000 Herrmann & Thomas, 2000b	Crawford et al., 2012a Nichols et al., 2012 Mardini et al., 2012
the fineness of geographic information increased	Herrmann & Thomas, 2000b Doupnik & Seese, 2001	Nichols et al., 2012 Crawford, et al., 2012
the inconsistency between the geographic segment disclosure and the other parts of the annual report decreased	Nichols et al., 2000	
Panel B: Neutral impact		
no change in the number of reported geographic areas for the majority of the companies	Doupnik & Seese, 2001	
Panel C: Negative impact		
high percentage of the sample companies did not disclose country-level geographic information	Doupnik & Seese, 2001	
broad, mixed, vague geographic area disclosures decrease but still exists	Herrmann & Thomas, 2000 Nichols, et al., 2000 Doupnik and Seese, 2001	Nichols et al., 2012 Aleksanyan & Danbolt, 2012
the number of items disclosed by geographic areas decreased	Herrmann & Thomas, 2000	Nichols et al., 2012 Crawford et al., 2012a
loss of information about geographic earnings	Herrmann & Thomas, 2000 Nichols et al., 2000 Hope & Thomas, 2008 Hope, 2008 Hope et al., 2013	Aleksanyan & Danbolt, 2012
loss of information about capital expenditure by geographic areas		Nichols et al., 2012 Crawford et al., 2012a Mardini et al., 2012

The implementation of SFAS 131 and IFRS 8 resulted in more disaggregation because the proportion of country-level geographical segment disclosures has increased. (Herrmann and Thomas, 2000; Nichols et al., 2000; Doupnik and Seese, 2001; Hope, 2008; Aleksanyan and Danbolt, 2012; Nichols et al., 2012; Crawford et al., 2012a; Mardini et al., 2012; Pardal and Morais, 2011) On the other hand, the use of broad, vague

geographic grouping still continued under SFAS 131, under IAS 14R and under IFRS 8. (Herrmann and Thomas, 2000; Nichols, et al., 2000; Doupnik and Seese, 2001; Street and Nichols, 2002; Aleksanyan and Danbolt, 2012; Nichols et al., 2012) Additionally, the number of items disclosed by geographic areas and the number of firms reporting earnings by geographical segments has declined following the adoption of SFAS 131, IAS 14R and IFRS 8. (Herrmann and Thomas, 2000; Nichols et al., 2000; Street and Nichols, 2002; Hope and Thomas; 2008, Hope, 2008; Aleksanyan and Danbolt, 2012; Hope et al., 2013; Nichols et al., 2012; Crawford et al., 2012a) This may result in losing relevant information for monitoring managers (see more in Section 2.4.3) and competitors (see more in Section 2.4.4) and making economic decisions (see more in Section 2.4.5). Overall, research results indicate that the introduction of SFAS 131 and IFRS 8 had the same effects on the companies' geographic disclosures.

2.4.3 Preparers' segment decision _ External monitoring / Agency cost

Considerable managerial discretion was / is allowed in the application of the accounting standards. The managers' perception of advantages/benefits (Section 2.4.5) and disadvantages/costs (Section 2.4.3 and Section 2.4.4) associated with segment disclosure influences their interpretation of segment disclosure standards and the level of segment disclosure they provide. The following Sections introduce the literature that investigates what motivates managers to withhold segment information.

Managers have both the incentives (the importance of segment disclosure to investors) and the opportunity (e.g. segment definition, materiality level, overhead cost allocation between segments are based on managerial judgement) to hide unresolved agency problems (e.g. reporting poorly performing segments). Research found evidence that managers use segment aggregation (Berger and Hann, 2002 and 2007; Wang et al., 2011) and segment level earnings management (Hann and Lu, 2009) to manipulate segment profit.

Aggregated information

More disaggregated information can attract greater external monitoring by revealing a company's diversification strategy, resource allocation between divisions, and underperforming divisions. (Berger and Hann, 2002, 2003)

Wysocki (1998) studied the informativeness of segment disclosures. He argued that disaggregated information is useful not only because of its firm valuation aspects (see more in Section 2.4.5) but also because it plays an important role in monitoring how firm management exercises real expansion and adaptation options.

Berger and Hann (2002) examined whether managers tried to use more aggregated segments to conceal information that could increase the likelihood of takeover. The results indicated that the more disaggregated information provided under the new regulation (SFAS 131) increased the likelihood of takeovers. This result suggests that the newly revealed information increased *"monitoring pressure from the market for corporate control"* (p41).

Later the segment disclosure literature was further extended by the same authors (Berger and Hann, 2007). They hypothesised that *"when agency cost motive dominates, managers reporting under SFAS No. 14 tend to withhold the segments with relatively low abnormal profit".* (p874) They found that the new segments (under SFAS 131) were associated with lower abnormal profit than the old segments. Thus, managers tried to conceal poorly performing segment information.

Recently Wang et al. (2011) found that managers disclose smaller segment earnings growth differences if their company has more free cash flows and more abnormal accruals (both free cash flows and discretionary accruals were used as proxies for agency costs) They also found that SFAS 131 did not stop managers from concealing accurate information about segment earnings growth.

Earnings management and empire building

Givoly et al. (1999), based on a large sample of US companies' segment disclosure practice under SFAS 14, found measurement errors (proxied by the correlation between the segments measures of performance and those of its industry) in segment sales and segment earning and they also found that these errors are considerably different. Further analysis of this result indicated that beside the characteristics of segments, reporting factors such as management interventions (shift income / earning between segments to conceal, manipulate the segments real result) also effect companies' segment reporting.

In a later study Hann and Lu (2009) also found evidence that managers manipulated segment profit by earnings management (allocation of overhead cost between segments) to conceal reporting segment losses under SFAS 14. However, after the introduction of SFAS 131 the segment level earnings management declined. The authors explain this by the increased transparency (through the new reconciliation requirement) and by the increased consistency between external and internal reporting under the new regulation.

More recently Wang and Ettredge (2014) found that under SFAS 131 managers use cross-segment resource transfers to conceal information and limit the monitoring usefulness of segment disclosure. The cross-segment transfers have a positive association with the difference between the aggregated segment earnings and the corporate level earnings. Based on this result the authors argue that managers faced with high agency costs tend to disclose more and larger differences.

SFAS 14 required companies to disclose geographic segment data but under SFAS 131 the disclosure of geographic segments is optional when operating segments are not defined as geographic areas. A relatively high percentage of the reporting companies decided not to provide geographic segment data after the introduction of SFAS 131. (see more in Section 2.4.2) However, when disclosure quality is reduced the shareholders ability to monitor managerial actions also decreases. This might result in managers making self-maximising decisions such as "empire building". (Jensen and Meckling, 1976) Hope and Thomas (2008) studied a large number of companies (502) prior and after the adoption of SFAS 131 to test the agency cost hypothesis in the context of geographic disclosures. 74% of their sample companies stopped providing geographic earnings after the introduction of SFAS 131. They found that higher foreign sales growth and lower foreign profit margin is associated with the nondisclosure. The research results are consistent with the agency cost hypothesis.

2.4.4 Preparers' segment decision _ Proprietary cost

Providing disaggregated segment information (e.g. segment level profitability, asset) is competitively sensitive. Both theoretical and empirical research demonstrated that the companies' segment disclosure is affected by the managers' incentive to avoid potential harm. Hayes and Lundholm (1996) developed a theoretical model in which firms (to

avoid adverse selection in capital market) are more likely to report aggregated segments when activities' results are considerably different. Nagarajan and Sridhar (1996) also argue that companies use segment aggregation to protect proprietary information and to deter entry by competitors. However, aggregation not only prevents the competitor from entering the market but also helps to reduce the intensity of competition. (Schneider and Scholze, 2011) Feltham et al. (1992) found that the type of competition and the nature of the uncertainty in the economy affect the companies' disclosure and segment aggregation decision. Furthermore, if multi-segment companies try to reveal particularly favourable information in one segment that inevitably also reveals unfavourable information in another segment. (Arya et al., 2008) Therefore, companies use aggregation to hide proprietary information and to maintain competitive advantages.

Proprietary cost and firm lobbying position

The analysis of response letters submitted to the standard setters (FASB, IASB) on EDs (SFAS 131, IFRS 8) can help to reveal the motivations behind the companies' lobbying positions towards the EDs. Managers expressed concerns that more detailed segment disclosure (greater disaggregation, more items etc.) would force them to provide potentially harmful proprietary information to competitors. (Ettredge, et al., 2002; Katselas et al., 2011) For example, 87% of the industrial firms were against the proposed SFAS 131 on the ground that the new regulation *"put them at competitive disadvantage"*. (Ettredge, et al., 2002a, p98)

Two studies (Ettredge, et al., 2002; Katselas et al., 2011) examined companies' position on EDs and tested the relationship between company characteristics and their view regarding the new segment reporting regulation. The researchers found that expected proprietary costs are important in evaluating the new segment disclosure rules.

Ettredge et al. (2002) analysed companies' lobbying position on the ED of SFAS 131. The authors used a combined sample of response letters against the new segment reporting rule submitted to the FASB ("against group") and a stratified random sample of 198 companies that did not respond to the FASB invitation to comment ("not against group"). Based on their results the authors argue that the companies' lobbying positions on the FASB ED were motivated by the expected increase in segment disclosure, and by self-interest related to the potential competitive harm imposed on them by the proposed new segment disclosure standard.

Katselas et al. (2011) carried out a form oriented[15] content analysis to investigate whether factors such as information asymmetry, agency costs, proprietary cost and political costs affect financial statement preparers lobbying position choices on IFRS 8. 29 out of the 182 comment letters on the ED of the IFRS 8 were made by publicly listed companies. The analysis of these comment letters indicated that single segment firms were less likely to support IFRS 8 possibly because of the potential disclosure of proprietary information. The results also suggested that larger firms are more likely to lobby in favour of IFRS 8. However, other firm characteristics (inside ownership, profitability and leverage) included in the regression model were not significantly associated with preparers' choices in lobbying on IFRS 8.

Proprietary costs and operating (business) segment reporting

Edwards and Smith (1996) found that before segment disclosure become mandatory (SSAP 25) in the UK the fear of competitive harm was one of the three most important reasons for not providing voluntary segment information. Even after the introduction of mandatory segment disclosure rules competitive harm remained a concern for 32% of the surveyed companies (questionnaire based survey). In addition, face-to-face interviews revealed that the disclosure of geographic rather than business segments information can cause competitive disadvantage for the interviewed companies.

Leuz (2004) studied a sample of 109 non-financial German companies' voluntary segment reporting and cash flow statement disclosure. Consistent with the proprietary cost hypothesis he found that firms are less likely to provide voluntary segment data when segment profitability is more heterogeneous and therefore more revealing than their average profitability in the income statement. Whereas cash flow disclosures which are less competitively sensitive (e.g. can be calculated from the companies' balance sheet and income statement; firm-level information not disaggregated) seemed to be governed by managers' capital-market considerations (such as cost savings in private information acquisition, high analyst following, lower cost of capital etc.). The research findings support that when managers make their disclosure choices they trade off capital-market benefits and proprietary costs.

[15] count of forms of expressions such as words, sentences or paragraphs

However, Harris (1998) argues that managers' choices in defining segments differ from their voluntary disclosure decisions. Voluntary disclosure decision models *"often assume that managers condition their disclosure decisions on the observed values of certain information signals"* (p114). Whereas accounting regulations require consistency in segment definition from one period to another. Therefore, voluntary disclosure models may not apply to segment definitions.

Harris (1998) used a logit model to investigate the relationship between the business segment decisions of managers and the level of industry competition. She studied a sample of 929 US firms business segment reporting practice under SFAS 14 during 1987 to 1991. The results indicated that firms are less likely to report operations as industry segments in less competitive industries (measured by the higher industry concentration ratio and the slower speed of abnormal profit adjustment). Harris (1998) concluded that managers try to protect abnormal profit from their competitors by not reporting less competitive operations as business segments.

Previous research (Hayes and Lundholm, 1996; Harris, 1998) findings suggested that higher level competition may decrease the competitive harm associated with segment disclosure. Based on these findings Botosan and Harris (2000) hypothesised that firms that experience increase in competition are more likely to start quarterly segment disclosure. The results did not support the hypothesis.

Berger and Hann (2002) focused on the mandatory adoption of SFAS 131 and studied whether the new segment disclosure rule resulted in more disaggregated segment information. They argue that *"managers could have voluntarily disclosed more disaggregated information with little data collection cost under the old regime"* (p1) because the information required by the management approach of the new regulation was available for them. Thus, increased segment reporting under SFAS 131 indicates that managers concealed information under SFAS 14. The authors found that companies that reported more disaggregated information (disclosed proprietary information) after the adoption of SFAS 131 had higher abnormal profitability (compared to industry average) and more variation in segment profitability (difference between the highest and the lowest segment Return on Assets and Return on Sales). However, the more disaggregated information did not have adverse effect (competitive harm) on the companies' abnormal profit.

Botosan and Stanford (2005) used retroactive disclosures required by SFAS 131 to examine managers' incentives for hiding segment information under SFAS 14. They used a sample of 615 firms that initiated segment reporting under SFAS 131 (previously reported as single-segment firm). In line with previous research results they found that to protect profit in less competitive industries firms concealed profitable segments operated in less competitive industries than their primary operations.

Berger and Hann (2007) argue that neither industry-level profit (Harris, 1998; Botosan and Stanford, 2005, Nichols and Street, 2007) nor firm-level profit (Piotroski, 2003 in Berger and Hann, 2007) can capture potential proprietary cost. Both industry-level and firm-level profit information are publicly available to the market. Therefore, there is no proprietary cost of disclosing such information. The authors argue that it is a segment's performance relative to its industry that managers might try to hide by aggregation. However, they did not find evidence consistent with the proprietary cost hypothesis.

Birt et al. (2006) studied the voluntary segment disclosures reported by a sample (N=825, for 2001, 2002 and 2003) of Australian companies and found that voluntary disclosures and companies in highly competitive industries are positively associated.

Segment disclosure research uses publicly available financial statement information. However, data used by managers when making segment reporting choices are not available to researchers. Bens et al. (2009) argue that this is a limitation of the previous research approach. The authors used a detailed confidential database to analyse what motivates managers to withhold segment information. The research result indicated that both agency and proprietary cost motivated multiple segment companies' managers to aggregate operations. On the other hand, the nondisclosure choice made by single segment companies' managers was motivated only by proprietary costs but not agency cost.

Ettredge et al. (2006) found that the introduction of SFAS 131 resulted in a greater cross-segment variability of reported profit and therefore in an improved more transparent segment disclosure. They also found that under the new regulation managers still can conceal competitively harmful segment profitability differences.

In a more recent study Wang et al. (2011) also studied cross-segment differences. But instead of focusing on differences between segment profits they studied the differences between segment earnings growth rates. They argue that the greater the differences between the segment earnings growth the more informative the segment disclosure. Although the managers have incentives to reveal differences in segment growth rates to capital providers they are also motivated to conceal these differences to reduce competitive harm and protect self-interest. The authors found that proxies for proprietary costs (abnormal profitability and the Herfindahl industry concentration index) are negatively associated with the segment earnings growth variability. Companies earning abnormally high profit, operating in highly concentrated industries tend to report smaller cross-segment earning differences. On the other hand, companies which are protected by entry barriers (higher capital intensity, used as an inverse measure of proprietary costs) are more willing to reveal greater cross-segment earning differences. The results also indicated that the introduction of SFAS 131 did not influence the managers' ability to reveal / conceal cross-segment earning differences.

Wang and Ettredge (2014) examined the determinants of the difference between aggregated segment earnings and corporate level income (Gap). The authors found evidence that under SFAS 131 companies with high proprietary costs (proxied by the Herfindahl-Hirschman (HHI) Index to measure the industry level concentration) tend to disclose more and larger Gaps.

The majority of the studies analysed the disclosure practice of US companies under SFAS 14 and SFAS 131. However, Nichols and Street (2007) analysed a sample of 160 companies using IASs between 1999 and 2002 to study whether managers withhold segment information under IAS 14R based on segment profitability. The authors utilised Harris's model (1998) with some modification which addressed differences between the samples (Harris: US firms, SFAS 14; Nichols and Street: multinational sample, IAS 14R). In line with Harris's (1998) research results the model revealed a significant negative relationship between disclosure and company Return on Assets compared to global industry Return on Assets. This result indicate that IAS 14R provided flexibility to managers to aggregate industry segments to protect excess return. Furthermore, the results confirmed *"that the larger the company, the greater the probability of disclosure"*. (p64)

Pisano and Landriana (2012) studied the number of items disclosed for each operating segments by 124 listed, non-financial Italian companies in both 2008 (last use of IAS 14R) and 2009 (first use of IFRS 8). They found a positive relationship between the level of industry competition (proxied by HHI and four-firm concentration ratio) and segment disclosure (measured by the number of items disclosed for each operating segments and by the change in the number of items). The results of Pisano and Landriana (2012) indicate that higher levels of industry competition (concentration) are associated with higher (lower) level of segment disclosure. The authors also found that companies operating in less competitive industries decreased the number of items disclosed for each operating segments under IFRS 8. Their findings are in line with the results of previous studies that companies tend to provide more (less) information in more (less) competitive industries.

Proprietary costs and enterprise-wide reporting

The majority of the competitive harm literature focuses on business (industry) segments. Tsakumis et al. (2006) extended the literature by studying the impact of competitive harm on firms' geographic area disclosures. To provide more relevant information for investors both IFRS 8 and SFAS 131 require the disclosure of the revenue from individual countries if material. However, other financial statement users, such as competitors also benefit from the improved, more detailed disclosure. Tsakumis et al. (2006) argue that firms might feel that the country-level disclosure could result in competitive harm. Therefore, they may change their materiality level to minimise country-level disclosure. The authors found (based on a sample of 115 Fortune 500 US firms' disclosure practice under SFAS 131) that competitive harm associated with country specific disclosures provides an incentive for managers to avoid making these disclosures. Firms exposed to greater proprietary costs (proxied by the ratio of foreign revenues to total revenues) disclose a smaller percentage of their foreign operation by individual country. The results also indicate that firms that have greater number of subsidiaries in foreign countries report a lower percentage of foreign revenues by country. Furthermore, larger firms provide a higher percentage of their foreign revenues by individual country and the percentage of foreign revenues disclosed by individual country under SFAS 14 is positively associated with the percentage of foreign revenues disclosed by individual country under SFAS 131.

Ellis et al. (2012) studied US companies' entity-wide disclosure about their major customers (between 1976 and 2006). The authors found that proprietary costs are

important factors in managements' choices to disclose information about the company's customers.

In summary, the finding of previous studies indicate that the level / quality of segmental disclosure of companies is limited by the proprietary cost (competitive harm) associated with the disclosure of more detailed information to the market. Additionally, there seems to be a positive relationship between the level of competition on the market and segmental information disclosed[16] by the companies. Thus, companies operating in more (less) competitive industries more likely to provide more (less) segmental information. (e.g. Hayes and Lundholm, 1996; Harris, 1998; Botosan and Stanford, 2005; Birt et al., 2006; Pisano and Landriana, 2012)

There are concerns regarding proprietary and/or agency cost issues resulting from increases in segment disclosure. Research found evidence that the economic consequences of disclosure such as proprietary and/or agency costs influence managers' segment decisions. (Berger and Hann, 2003; Botosan and Stanford, 2005; Berger and Hann, 2007; Bens et al., 2009) Some results indicate that both proprietary and agency motives are important determinants of firms segment disclosure decisions. (Botosan et al., 2005; Bens et al., 2009; Wang and Ettredge, 2014; Wang et al., 2010) However, Berger and Hann (2007) found mixed evidence with regard to the proprietary cost motive. Even the IASB's PIR report on IFRS 8 and FAF's PIR report on SFAS 131 indicate that some entities might use segment aggregation to reduce transparency either because of competitive harm concerns or because they try to hide their underperforming businesses. (IASB, 2013b; FAF, 2012)

Companies used SFAS 14 and IAS 14R to hide important segment information. (Harris, 1998; Givoly et al., 1999; Berger and Hann, 2002; Botosan and Stanford, 2005; Ettredge et al., 2006; Berger and Hann, 2007; Hann and Lu, 2009; Wang et al., 2011) However, the results also indicate that the introduction of IAS 14R and SFAS 131 did not stop managers concealing segment information. (Nichols and Street, 2007; Ettredge et al., 2006; Tsakumis et al., 2006; Hope and Thomas, 2008; Wang et al., 2011; Wang and Ettredge, 2014; Ellis, et al., 2012)

[16] details, aggregation, items disclosed etc.

2.4.5 Benefits and decision usefulness of segment disclosure

Beside other forms (e.g. press releases, media, company's website and presentations for analysts) companies provide information through their mandatory and audited financial reports to reduce information asymmetry. (Healy and Palepu, 2001; Bushman and Smith, 2001) This Section is a summary of the findings of the studies examining the usefulness / benefits of segment information disclosed by firms in their annual reports.

Predictive ability of segment disclosure

Risk, growth, and profitability among diversified company's segments can differ substantially. This makes it difficult to forecast the consolidated numbers (e.g. sales, earnings) of diversified firms.

Table 2.5 Studies on the predicative ability of segment disclosures

Studied segments	Researchers forecast models	Financial analysts forecast accuracy
Business segments	Kinney, 1971 Collins, 1976 Emmanuel & Pick, 1980 Silhan, 1982 & 1983	Baldwin, 1984 Swaminathan, 1991 Lobo et al., 1998 Mande & Ortman, 2002 Birt and Shailer, 2011
Geographic segments	Roberts, 1989 Balakrishnan et al., 1990 Ahadiat, 1993 Nichols et al., 1996 Herrmann, 1996 Behn et al., 2002	Nichols et al, 1995 Hope et al., 2006 Kou & Hussain, 2007

Empirical studies investigated the relationship between the firms' disclosure practice and (1) the analysts' earnings forecast accuracy and (2) the number of analysts following the firm. Research found evidence that segment-level disclosure is positively related to forecast accuracy (Lang and Lundholm, 1996; Hope, 2003b) and negatively related to forecast dispersion among individual analysts' forecasts (Lang and Lundholm, 1996). In addition, firms with more informative disclosure practice have a larger analyst following. (Lang and Lundholm, 1996) Additionally, Duru and Reeb (2002) found that greater level international diversification is associated with less accurate analyst earning forecast. Thus, as firms become more geographically diversified, making their earnings forecast

becomes more complex. Therefore, the authors argue that more information on multinational firms' international operations would help the market participant.

Several empirical studies investigated whether segment disclosure and increased disaggregation of segments can be used to improve the accuracy of forecasts (researchers' forecast models address the question whether financial statement users should be able to improve their forecast accuracy by using segment disclosures) or whether financial analysts forecast accuracy improved by using the segment information provided in financial reports (focus on the impacts of segment disclosure on the actual analyst forecast accuracy). (Table 2.5)

Overall, researchers generally found that forecasts using segment data are more accurate than forecasts using consolidated data. (Kinney, 1971; Collins, 1976; Emmanuel and Pick, 1980; Silhan, 1983; Baldwin, 1984; Swaminathan, 1991; Lobo et al., 1998; Mande and Ortman, 2002; Birt and Shailer, 2011[17]; Blanco et al., 2013; Roberts, 1989; Balakrishan et al., 1990; Ahadiat, 1993; Nichols et al., 1995; Nichols et al., 1996; Herrmann, 1996; Behn et al., 2002; Kou and Hussain, 2007) Thus, segment disclosures provide useful information to financial statement users to forecast diversified companies future performance. The research results indicate that segment sales should be disclosed, but the addition of segment earnings might lead to little or no additional improvement in forecast accuracy. (Kinney, 1971; Collins, 1976; Silhan, 1982; Emmanuel and Pick, 1980; Roberts, 1989; Behn, et al., 2002; Mande and Ortman, 2002; Hope et al., 2006) Furthermore, researchers found evidence that the predictive ability of geographic segment data increases when more disaggregated geographic segment information is provided. (Ahadiat, 1993; Herrmann, 1996, Behn et al., 2002)

In brief, empirical studies provide evidence of the predictive gains (increased forecast accuracy, decreased forecast dispersion) of companies' segment disclosures.

Valuation of business and geographical diversification

Several empirical studies used segment disclosures of firms to investigate the influence of international and / or industrial diversification on firm value. Research has not reached a conclusion regarding the benefits of diversification. Some studies found that

[17] focused on the users' earning forecasting confidence

diversification is rewarded with high firm value (Bodnar and Weintrop, 1997; Bodnar et al., 2003; Olibe, 2006) whereas other studies found that firm value and diversification are negatively related (Lang and Stulz, 1994; Berger and Ofek, 1995; Denis et al., 2002). Researchers argue (Lang and Stulz, 1994; Olibe, 2006) that the results are influenced by the measures used. Studies indicate, that investors' valuation can depend on the operating environment (e.g. the probability of recovery of assets located in different jurisdictions, Olibe, 2006) and the size of the firm (Olibe, 2006; Bodnar et al., 2003), the industry(ies) in which the firm operates (Lang and Stulz, 1994) and it can vary over time (Bodnar et al., 2003; Aleksanyan and Danbolt, 2005).

Although several studies used segment data, only a few of them focused directly on the importance and the impacts of the segment disclosures. Different studies provided mixed evidence on the value-relevance of segment information. However, most of the studies argue that segment disclosure has incremental value-relevance compared to firm-level accounting information (Bodnar and Weintrop, 1997; Wysocki, 1998; Thomas, 2000; Chen and Zhang, 2003; Bodnar et al., 2003; Bens and Monahan, 2004; Aleksanyan and Danbolt, 2005; Olibe and Kinney; 2007)

Markets reaction to segment disclosure

Researchers examined the benefits / usefulness of segment information by studying the stock markets reactions to segment disclosure.

Research focused on the question whether and how disclosed financial information affects a firm's cost of equity capital. Disclosure theories and empirical research suggests that the higher level of information disclosure reduces the cost of equity capital by reducing information asymmetry (reduced information risk, estimation risk, transaction costs and enhanced stock market liquidity). (Dhaliwal, 1979; Dhaliwal et al., 1979; Elliott and Jacobson, 1994; Botosan, 1997; Leuz and Verrecchia, 2000; Botosan and Plumlee, 2002; Easley and O'Hara, 2004; Botosan, 2006; Cheng et al., 2006; Lambert et al., 2007; Saini and Herrmann, 2011; Blanco et al., 2013)

Empirical studies provide mixed evidence but they generally suggest that firms can influence their cost of equity capital by the precision, the quality, the quantity (Dhaliwal, 1979; Dhaliwal et al., 1979; Botosan, 1997; Leuz and Verrecchia, 2000; Botosan and Plumlee, 2002; Easley and O'Hara, 2004; Botosan et al., 2004; Cheng et al., 2006;

Lambert et al., 2007; Saini and Herrmann, 2013; Blanco et al., 2013) and the timeliness (Botosan and Plumlee, 2002) of financial information disclosed to investors. Although segment reporting is considered to be important, literature has not focused on the link between the cost of equity capital and the level of segment disclosure. Only three of these studies tested and proved the theoretical negative relationship between the level of segment disclosure and the cost of equity capital. (Dhaliwal et al., 1979; Saini and Herrmann, 2013; Blanco et al., 2013)

Several studies examined the impact of segment disclosures on different market measures (e.g. market risk, cumulative abnormal returns, share prices etc.). In summary the results of the academic research generally suggest that segment data convey useful information to the market because it (1) reduces companies' market riskiness (e.g. Kinney, 1972; Simonds and Collins, 1978; Collins and Simonds, 1979; Prodhan, 1986; Prodhan and Harris, 1989); (2) improves markets ability to predict future earnings (e.g Kochanek, 1974; Collins, 1975; Ettredge et al., 2005) and (3) reduces the mispricing of foreign earnings (e.g. Hope et al., 2008a and 2008b).

2.5 Identification of research gaps

> *"Research on the impact of the IFRS 8 management approach is in its infancy because the standard was mandatory from 2009, thus, data are limited."* (Nichols et al., 2012, p302)
>
> *"After the introduction of any new Standard it takes time to develop research on the effect of its applications"* (IASB, 2013b, p15)

Although some research reported on the advantages and disadvantages of the introduction of IFRS 8 and tried to answer the question whether the concerns of IFRS 8 application held merit *"numerous questions about IFRS 8 application remain to be addressed by future research"*. (Nichols, et al., 2013, p306)

The researcher started to work on this research thesis in 2010. At that time literature on the application and impacts of IFRS 8 was scarce. The research gaps and objectives have been identified at an early stage of this research. The quotations in this section are used to reinforce (1) the research gaps identified and (2) the importance of the research objectives and questions of this study.

> *"Extending the views discussed above regarding comparability, issues relating to the role and effectiveness of auditors and market regulators in enforcing IFRS 8 compliance should be explored. Research addressing compliance with segment disclosures is also relevant to overarching issues about use of a company's business model or management intent in other IFRSs (…)."* (Nichols et al., 2013, p306)

IFRS 8 is the result of *"the process of convergence and influence of US practice"* (Crawford et al., 2013, p15) and *"represents Anglo-American values"* (Crawford et al., 2013, p16). The adoption of this "alien" American standard was subject to debate during the IASB's due process and during the EU endorsement of the standard. Although, critics raised concerns that the convergence of accounting rules should not be a simple copying activity the IASB introduced IFRS 8 and the standard is almost identical to its US counterpart, SFAS 131. (Section 2.2) However, it can be argued that if companies do not comply with the accounting standards the convergence of these standards and the quality and comparability of the financial statements are questionable. Therefore, research addresses compliance with the segmental reporting requirements of IFRS 8 and analyses the effect of different company characteristics (e.g. the role of auditor, the market competition, the organisational structure of the company etc.) on the level of compliance with the requirements of IFRS 8 can help to evaluate whether the application of IFRS 8 rise any concerns about the quality and comparability of segmental disclosures under the new standard. (Chapter 5; RO_1)

> *"The IFRS 8 PIR reveals that the IASB has received mixed messages about disclosure of geographic information. The Board noted that many entities provide geographic disclosure voluntarily or because they are managed on a geographic basis (IASB, 2013d). Investigation of incentives for, and consequences of, these disclosures would assist in resolving present uncertainties about the adequacy of IFRS 8 disclosures."* (Nichols, et al., 2013, pp303-304)

It is in no doubt that geographic disclosures provide useful information on assessing internationally diversified companies' risks and prospects and on making economic decisions. (Section 2.4.5) The potential loss of geographic information as an impact of the new standard was one of the major concerns expressed during the discussion process of the standard. (Section 2.2) The introduction of SFAS 131 in the US had some negative effect on the companies' disclosures. (Section 2.4.2) Additionally, during the PIR of IFRS 8 some investors questioned the usefulness of the geographic information disclosed

under IFRS 8. However, the IASB argues that there is no need for further actions. (Section 6.1) The question is whether the IASB was / is right or the concerns expressed before the introduction of IFRS 8 and during the PIR review of the standard can be justified. Additionally, research into the relationship between different company characteristics (proxies for the different disclosure theories; Section 2.3, Section 5.4 and Table 5.5 Summary of the possible links between the different company characteristics and the theoretical framework of corporate disclosure) and the quality of the company's geographic disclosures can provide an explanation to better understand the managements' geographic disclosure policies, their incentives to conceal or reveal geographic information. (Chapter 6; RO_2)

> *"Research providing evidence to inform the Board's work on a disclosure framework would be useful to the IASB. Additionally, research relevant to the IASB's development of further guidance on materiality could contribute to promoting the quality of financial reporting and avoiding boilerplate, irrelevant disclosures."* (Nichols, et al., 2013, p303)
>
> *"On a report to be delivered by 21 July 2018 by the Commission, it will have to be considered the possibility of introducing an obligation requiring large undertakings to produce, on an annual basis, a country-by-country report for each member state and third country in which they operate, containing information on profits made, taxes paid on profits and public subsidies received. The report will take into account developments to increase transparency in financial reporting carried out at international level."* (Council of The European Union, 2014, p2)

Geographic information disaggregated to country-level results in greater accountability and transparency and provides financial information that is more useful and relevant for financial statement user than information provided for geographic regions. (Section 2.4.2, Section 2.4.5 and Section 8.2) However, IFRS 8 only requires the separate disclosure of the country of domicile and individually material countries and it does not provide guidance how to set the materiality level. (Section 2.2 and Section 7.2) Insight into how the companies apply the materiality concept in defining their individually material countries can present relevant information to the IASB's work on providing guidance on the application of the materiality concept. (Chapter 7; RO_3) Additionally, it is an ongoing issue whether MNCs should provide detailed CBCR in their financial statements. The IASB decided not to undertake proactive work in this area and preparers argue that enough information and transparency is provided under the requirements of IFRS 8. However, legislative bodies in the US and EU had to bypass the IASB and issue CBCR related new regulations. (Section 8.1 and Section 8.2) Therefore, an examination of the

companies' country-level disclosures can help to address the question whether the companies' geographic disclosures in their financial statements can provide enough transparency about their geographic activities. It also can provide input to the EU's policy making process. (Chapter 8; RO_4)

This chapter provided a summary of (1) the regulatory background of IFRS 8 (Section 2.2), (2) the theoretical framework of corporate disclosures (Section 2.3) and (3) prior literature on segmental reporting (Section 2.4). The chapter also attempted to highlight existing research gaps. (Section 2.5) The purpose of the next chapters is to fill these gaps by answering the research questions presented in Chapter 3.

Chapter 3 Research objectives and Research questions

3.1 Introduction

This chapter introduces the research objectives and the research questions that need to be answered in order to help to fill the research gaps identified in Section 2.5.

3.2 Research objectives and Research Questions

First research objective (RO_1)

The first objective of the study is to assess the extent of compliance with the requirements of IFRS 8 and examine the factors that might provide some explanation why some companies have greater / lower compliance level than others. In order to address this research objective the following specific research questions will be answered.

$RQ_{1.1}$: What is the level of compliance with the segmental reporting requirements of IFRS 8?

$RQ_{1.2}$: What company characteristics are associated with the extent of compliance with the disclosure requirements of IFRS 8?

Second research objective (RO_2)

The research explores the impacts of IFRS 8 on the sample companies' geographic disclosure and provides an understanding of the factors / reasons that might help to explain the diversity of the companies' geographic disclosure practice. The study seeks answers to the following research questions:

$RQ_{2.1}$: Did the quality of geographic disclosures improve under IFRS 8?

$RQ_{2.2}$: What company characteristics drive secrecy and support openness?

Third research objective (RO_3)

The study aims to find out how the sample UK listed companies applied the materiality concept in defining their individually material countries and to understand the different company characteristics that might have an effect on the companies' materiality decision. To achieve this research objective the following research questions have been formulated.

$RQ_{3.1}$: To what extent do companies disclose information about their materiality judgment (how and why is an individual country determined to be material)?

$RQ_{3.2}$: What quantitative and qualitative thresholds are used to determine the materiality of individual countries?

$RQ_{3.3}$: What company characteristics affect the companies' materiality decision?

Fourth research objective (RO_4)

The study also explores whether the existing geographic disclosure requirements through IFRS 8 provide sufficient financial information and transparency for the different financial statement users. The following research question is formed to address this research objective.

$RQ_{4.1}$: Can individual country disclosure under IFRS 8 provide sufficient information and transparency?

3.3 Summary

The objectives of the research and the research questions were introduced in this chapter. Chapter 4 introduces the research methodology and methods used in this study in order to achieve the research objectives and answer the research questions. Chapter 5, Chapter 6, Chapter 7 and Chapter 8 provide the answers to the research questions. (Table 1.1)

Chapter 4 Research methodology and methods and Data collection

4.1 Introduction

This chapter presents and discusses the research methodology (Section 4.2) and methods (Section 4.3) followed in the study in order to achieve the research objectives and answer the research questions covered in Chapter 3. This chapter also describes the sample and how the data were collected.

4.2 Research methodology[18]

Research "*methodology is concerned with the process of doing research"*. (Ryan et.al., 2007, p36) It has both ontological (researchers' assumptions about the nature of the phenomenon's reality) and epistemological (the nature of knowledge: what forms it takes and how it can be obtained and transmitted) dimensions. (Ryan et al., 2007)

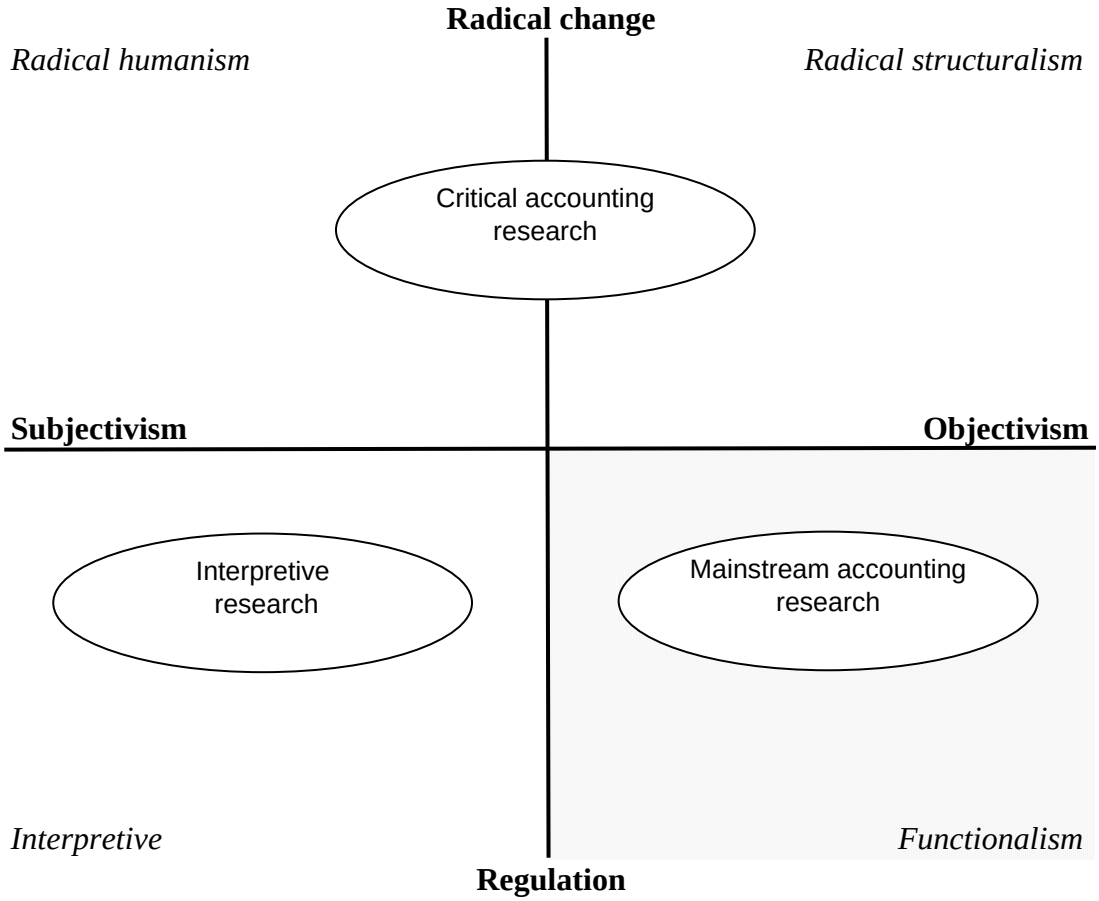
Hopper and Powell (1985) classified the previous accounting literature[19] according to its principal theoretical and philosophical assumptions. They divided accounting studies into three main categories: functional studies (mainstream accounting research), interpretive studies (interpretive research), and radical studies (critical accounting research). The authors argue that much of accounting research can be placed in the most objective and regulatory region in the functional paradigm (→ objectivism). (Figure 4.1)

Additionally, Chua (1986) argues that mainstream accounting thought, which is used by the majority of accounting researchers, is grounded in a set of common assumptions about knowledge and the empirical world (common beliefs, values, and techniques). He also summarises these common assumptions. Mainstream accounting researchers *"claim that there is a world of objective reality that exists independently of human beings"*. (p606) These researchers also believe in the empirical testing of their theory (hypothetico-deductive model) and favour the use of quantitative methods of data analysis and collection which allow generalisation.

[18] This Section is based on Section 3.1.1 Research Methodology of the researcher's MsC dissertation (The impact of constructive operating lease capitalisation on financial statement figures and financial ratios of listed Hungarian companies, 2009, Heriot-Watt University)
[19] management accounting

This study belongs to the mainstream of accounting research and could be placed in the bottom-right quadrant of Hopper and Powell's taxonomy of accounting research. (Figure 4.1)

Figure 4.1 Hopper and Powell's taxonomy of accounting research



Source: Ryan et.al., 2007, p40

4.3 Research method

Research methods are the particular techniques used in the research. Scientific method is widely accepted in mainstream accounting research. This method is based on abstraction, reductionism and statistical methods. (Ryan et. al., 2007) The scientific method was followed by the researcher.

The following part of this chapter is a summary of the different statistical methods used in this study to examine the data and to analyse the relationship between different variables.

4.3.1 Analysing categorical data

Pearson's chi-square was calculated to test whether there is any relationship between two categorical variables. Additionally, Cramer's V was also calculated to test the strength of association between two categorical variables. The assumptions of these tests that 1) each item can only be in one cell of the contingency table and 2) the expected frequencies in each cell should be greater than 5[20] were checked. In most of the cases the second assumption was violated which could result in a loss of statistical power of the tests. Although, the increase of the sample size might solve this problem (Field, 2009) this cannot be a solution in this case. Therefore, the results of the tests and the basic data (frequencies and percentages in the contingency tables) always were analysed together.

The statistical methods mentioned in this Section are used in Chapter 6 and Chapter 7.

4.3.2 Parametric tests & Regression

Univariate Analysis

Parametric independent t-tests and analysis of variance tests (ANOVA) were conducted to test the association between the dependent and the categorical independent variables. ANOVA is used to test for significant differences between two or more means. However, when there are only two groups the independent t-test also can be used to compare the means of the groups. In these cases the independent t-test and ANOVA F test will produce the same results[21]. Both ANOVA F and independent-t were used in this study to test the null hypothesis (alternative hypothesis) that there is no difference in the means of the groups (that one or more of the differences between means is significant). Where ANOVA indicates that more than two means are significantly different pair wise comparisons (post hoc tests: Hochberg`s GT2 test where population variances were equal and Games-Howell procedure where population variances were different) were also used to identify where the differences between the groups are. (Hunyadi and Vita, 1991; Field, 2009)

[20] in larger contingency tables at least 80% of the expected frequencies should be over 5%
[21] equal variances assumed

Pearson product-moment correlation coefficients (bivariate correlation) were calculated to measure the strength of the association between two continuous variables. The Pearson correlation coefficient ranges from -1 to +1. A correlation of +1 (-1) indicates that there is a perfect positive (negative) relationship between variables. A value of 0 indicates no linear relationship. (Hunyadi and Vita, 1991; Field, 2009)

The assumptions of parametric tests (normally distributed data; homogeneity of variances; the dependent variable measured at least at the interval level; independent observations; linear relationship between the variables in case of Pearson's r) were checked. (Hunyadi and Vita, 1991; Field, 2009) The dependent variable(s) are continuous variables and the independence of the data collected about the different FTSE350 companies is highly likely.

There are different options available to decide whether the distribution derives from normal distribution or not (e.g. histogram and normal curve, skewness and kurtosis, formal tests of normality). In this study Kolmogorov-Smirnov and Shapiro-Wilk tests were used. However, if the sample size per groups is sufficiently large, then the sample distribution of any statistics will follow the normal distribution regardless the distribution of the variable in the population (Central Limit Theorem). The practical question is that how large the sample should be. It is suggested that sample size larger than 30 (Hunyadi and Vita, 1991; Field, 2009) is sufficiently large for symmetric or near symmetric (light-tailed) distributions. However, larger sample size is required for heavily-tailed distributions. (Hunyadi and Vita, 1991; Wilcox, 2012)

Levene's test was carried out to test the homogeneity of variances. Significant Levene's test result indicates that the homogeneity of variances assumption is violated. In these cases the more robust Brown-Forsythe F and Welch's F were calculated instead of ANOVA F.

Univariate analysis is used in Chapter 5, Chapter 6 and Chapter 7.

Multivariate Analysis

Standard multiple regression models (forced entry) were used in this study. Most of the included independent variables were based upon past theoretical and empirical research findings.

The multivariate linear regression model has several underlying assumptions which need to be assessed. These assumptions are the following:

1) the independent variables are categorical or quantitative and the dependent variable is *"quantitative, continuous and unbounded"* (Field, 2009, p220);
2) the model is specified properly (all relevant variables included, irrelevant excluded);
3) the relationship between the independent variables and the dependent variable is linear (linearity);
4) the residuals in the model are normally distributed (normality);
5) the residuals at each level of the independent variables are constants (homoscedasticity) and
6) the residuals are independent from one another (no autocorrelation).

Additionally, other issues such as outliers (influential cases) and highly correlated independent variables (multicollinearity) can cause problems in estimating the regression model. Thus, they are of great concern to regression analysis. (Tabachnick and Fidell, 2007; Field, 2009)

Outliers (univariate and multivariate) and influential cases were tested (graphical methods: histogram and normal curve, scatterplot; large residuals; Cook's distance) because these observations can have a large influence on the overall model and on the estimated parameters. Incorrect data entry could be one of the reasons for the presence of an outlier. Therefore, data entry for outliers was double checked. The detected outliers (univariate: e.g. Tesco, BP, Shell; multivariate: e.g. W H Smith, Babcock International Group etc.) are important members of the sample, therefore deleting them was not an option. However, variable transformation (see later in Section 4.3.3) was considered to address their impact.

Multicollinearity is present when two or more explanatory variables in a multiple regression model are highly (but not necessarily perfectly) correlated. There is perfect multicollinearity when the correlation coefficient between two independent variables is equal to 1 or -1. However, in practice perfect multicollinerarity is rare. If the independent variables are highly correlated it is difficult to distinguish the individual effects of the variables. In the best regression models independent variables correlate highly with the

dependent variable but they correlate minimally with each other. From the several warning signals which can help to detect multicollinearity the correlation matrix and collinearity statistics (tolerances and Variance Inflation Factors, VIFs) were analysed. VIF greater (tolerance[22] smaller) than 10 (0.1) indicates that multicollinearity effects are present. When multicollinearity is detected its consequences need to be considered. The greater the multicollinearity the greater the standard errors are (wider confidence intervals for coefficients, small t-statistics). However, multicollinearity does not violate OLS (Ordinary Least Squares) and does not bias results. (Hunyadi and Vita, 1991; Tabachnick and Fidell, 2007; Field, 2009)

Table 4.1 Methods applied in the study to check the outliers, the multicollinearity and the assumptions of multivariate regression

	Assumptions					
Method	**Linearity**	**Normality**	**Homoscedasticity**	**No autocorrelation**	**Outliers**	**Multicollinearity**
Graphical methods						
Standardised residuals against the standardised predicted values.	√		√			
Histogram of the standardised residuals (with normal curve)		√				
Normal probability plot (observed cumulated probability against the expected cumulated probability)		√				
Partial plots (scatterplots of the residuals and each of the the predictors)			√		√	
Bivariate scatterplots between pairs of variables	√		√		√	
Statistics						
Skewness		√				
Kurtosis		√				
Kolmogorov-Smirnov & Shapiro-Wilk tests		√				
Cook`s distance						√
Tolerance & VIF						√
Durbin-Watson statistics				√		
Correlation matrix						√

based on Tabachnick and Fidell, 2007, Chapter 4 & 5 and Field, 2009, Chapter 7

The assumptions of linearity, normality, homoscedasticity and the independence of residuals can be checked by graphical methods and by different statistics. Most of these concentrate on the examination of the residuals. Table 4.1 is a summary of the methods applied in this study to check the outliers, the multicollinarity and the assumptions of the multivariate regression model.

Multivariate analysis is used in Chapter 5.

[22] reciprocal of VIF

4.3.3 Non-parametric tests & Rank Regression

In most of the cases the normality assumption has been violated and not all of the related samples have large sample sizes. Based on the Levene's test the assumption of homogeneity of variances also has been violated in some cases. Different graphical methods (e.g. histogram and normal curve, scatterplots) indicate the presence of outliers. Furthermore, the dependent variable in Chapter 5 is bounded and its value lies between 0.00 - 100.00%.[23] Using bounded dependent variable in an OLS regression model might result in predictions outside the acceptable range of the bounded dependent variable. (Cook, 1998; Field, 2009) More importantly, the use of bounded dependent variable is a major violation of one of the underlying assumptions of the multivariate linear regression models, that the dependent variable is a continuous, unbounded variable. (see Section 5.6)

Data transformation can help to deal with outliers and to correct violations of assumptions such as non-normality, non-linearity, heterogenity of variances and the use of bounded dependent variable in OLS. Several kinds of transformations can be used to correct the problems (e.g. log, power, square root, reciprocal, reverse score transformations; dichotomising the variable; transform the variable after reflecting it). (Tabachnick and Fidell, 2007; Field, 2009) Trial and error was used to decide which transformation is the best.

However, when the assumptions of parametric tests are violated and none of the above mentioned transformations correct the basic problem non-parametric tests (do not rely on the assumption of normally distributed data) and robust methods (e.g. trimmed means, bootstrap) still can be used. (Field, 2009; Wilcox, 2012)

Most of the non-parametric tests work on ranked data rather than the actual data. There are many ways in which observations can be ranked (see e.g. in Conover and Iman, 1981; p124). In this study the data were ranked from smallest to largest (from 1 to n). In case of ties average ranks were assigned.

[23] The lower boundary means that the companies can have compliance index that is zero or greater than zero, but not less than zero. The upper boundary means that the companies can have compliance index that is 100.00% or less than 100.00%, but not more than 100.00%.

Beside the parametric independent t-test and ANOVA, their non-parametric alternatives the Mann-Whitney U test and Kruskal-Wallis test (respectively) were calculated on ranked data to test the relationship between the dependent and categorical independent variables.

When assumptions (linearity, normal distribution) of the Pearson r are violated non-parametric correlation measures (Spearman's and Kendall's correlation coefficient) can be calculated. In this study both Spearman's (Spearman's rho) and Kendall's rank correlation coefficients (Kendall`s tau) were calculated.[24]

Several theoretical (e.g. Iman and Conover, 1979; Conover and Iman, 1981; Cooke, 1998) and empirical studies (e.g. Lang and Lundholm, 1993, 1996; Wallace et al., 1994; Wallace and Naser, 1995; Al-Ulis, 2006; Tsalavoutas, 2009) argue that rank transformation is a useful method in multiple regression as well. After transforming both the dependent and independent variables the usual OLS regression analysis can be performed on the ranks. Iman and Conover (1979) argue that rank regression *"can be used to great advantage on monotone data, whether that monotonicity be linear on non-linear"*. (p509) Additionally, the use of normal-scores as an alternative to ranks is also recommended by Cooke (1998).

However, the question is whether data transformation is necessary or / and helpful. Researchers mention several disadvantages of the data transformation such as (i) sometimes it is harder to interpret transformed variables (ii) data transformation changes the hypothesis being tested etc. (Field, 2009; Cooke, 1998). On the other hand, transformation might improves analysis by reducing the impact of outliers, correcting the problems with assumptions (e.g. non-normality, bounded dependent variable) etc. Therefore, Tabachnick and Fidell (2007) recommend *"to consider transformation of variables in all situation unless there is some reason not to"*. (p86). Furthermore, both Iman and Conover (1979) and Cooke (1998) emphasise the importance of the use of multiple approaches to ensure that the same conclusions can be reached across different methods. Thus, *"the results are not method-driven"*. (Cooke, 1998; p210) Therefore, both parametric and non-parametric tests were used and OLS regression models with unranked data, ranked data and normal-scores were estimated.

[24] Kendall's rank correlation coefficients were used in the compliance part of the study because of the relatively large number of tied ranks.

Non-parametric tests are used in Chapter 5, Chapter 6 and Chapter 7 and rank regression is used in Chapter 5.

4.4 Sample Selection and Data collection

The FTSE 350 constituents (as at 22 June 2011) listed on the London Stock Exchange represent the sample for this study. In line with prior research (e.g. Street and Bryant, 2000; Street and Gray, 2002; Camfferman and Cooke, 2002; Glaum and Street, 2003; Prather-Kinsey and Meek, 2004; Hodgdon et al., 2009; Aleksanyan and Danbolt, 2012; etc.) 113 financial companies (ICB[25] Financials: Banks, Insurance, Financial Services) were excluded from the sample. An additional 15 companies were excluded from the non-financial companies because of data unavailability (mainly because they were formed in or listed from 2010 or 2011). Thus, the number of the companies in the sample is 222.

However, the number of the companies analysed in Chapter 5, Chapter 6 and Chapter 7 can be less. (see more in Section 5.5, Section 6.3 and Section 7.4; Appendix A. 1)

Whilst the mandatory adoption of IFRS 8 is effective for financial years starting on or after 1 January 2009, a number of companies adopted the new standard earlier (starting from 31.12.2007)[26]. Additionally, the companies reported their financial statement at different year-ends[27]. Although, it can be argued that companies with later reporting date can learn from the disclosure practice of the earlier reporting companies (Tsalavoutas, 2009), all first adoptions of IFRS 8 have been analysed regardless of the financial year-end.

Data needed for this study were (1) collected manually from Annual Reports downloaded from the company websites or (2) downloaded from OSIRIS database. The collected data was transferred onto Microsoft Excel sheets containing company characteristics (e.g. size, industry, auditor etc.) and the requirements of IFRS 8. The company reports are presented

[25] Industry Classification Benchmark
[26] 29 from the 200
[27] 32 different year-end dates for the remaining 171 companies; 90 companies reported at 31.12.2009 and 26 reported at 31.03.2010

in GBP, US dollar and Euro. The year-end financial numbers were converted to GBP at year-end exchange rates[28].

4.5 Summary

This chapter has outlined the researcher's approach (Section 4.2) and the methods (Sections 4.3) used to reach the objectives of the study and answer the research questions. The sample, along with the type of data and data sources has been presented and discussed (Section 4.4).

The research methods explained in this chapter are used in the following chapters. (Chapter 5, Chapter 6 and Chapter 7)

[28] Bank of England spot exchange rates

Chapter 5 Compliance with the requirements of IFRS 8

5.1 Introduction

Beside other quality measures such as the number of reported segments, the number of items reported by segments, the fineness of geographic information, the level of aggregation etc. compliance with the requirements of IFRS 8 also indicates the quality of the segment information provided by the companies. Prior research documented considerable level of non-compliance with the requirements of IAS 14 and IAS 14R. (Table 5.2, Table 5.1) Thus, what the companies actually do in practice is not always the same as what the companies should do. To be useful for its users, financial information needs to be comparable. However, if companies do not comply with the accounting standards the convergence of these standards and the quality and comparability of the financial statements are questionable.

The "outsider" financing system, the strong equity market, legal protection of investors, enforcement of accounting rules, and the influence of the large and strong accounting profession and their professional bodies (Nobes, 1998; La Porta et al., 1997 and 1998; Brown and Tarca, 2005) makes the UK a suitable financial reporting environment to analyse compliance with the new segment reporting standard. This background should result in high compliance with the disclosure requirements of IFRS 8 with little variances between the compliance levels of the listed UK companies. Any non-compliance should be analysed and explained.

This part of the thesis is intended to examine the level of compliance of the FTSE 350 companies listed on the London Stock Exchange with the disclosure requirements of IFRS 8. Additionally, the study investigates whether the segment disclosure practice of the companies is affected by selected company characteristics. In particular, Nichols et al. (2013) called for research studying the effectiveness of auditors in compliance with segmental disclosure requirements. This part of the study (Chapter 5) is a respond to this call as well.

The study contributes to the existing research on compliance, segmental disclosure and audit quality. It provides evidence regarding the compliance of UK FTSE 350 companies with IFRS 8 requirements and it examines the factors influencing their compliance with the disclosure requirements of the new segmental reporting standard. The current

research complements and extends prior compliance literature by investigating the impact of audit quality difference among the BIG 4 audit companies. The research provides evidence of the importance of the preparer's auditor choice on the IFRS compliance of the company. The results also highlights that the BIG 4 audit companies should not be treated as homogenous group in accounting research.

The remainder of this chapter organized as follows. The next Section reviews prior research on compliance[29] and on the determinants of compliance. (Section 5.2) The data analysis and the results (Section 5.7) are presented after a brief discussion of the research objective and research questions (Section 5.3), hypothesis development (Section 5.4) and the sample selection (Section 5.5). The final Section summarises and concludes the chapter (Section 5.8). The compliance requirements of IFRS 8 are measured by compliance scores. Their calculation is introduced in Section 5.6.

5.2 Literature review of compliance studies

The purpose of this Section is to place the study in context. The literature on segmental reporting was discussed in Chapter 2. This Section focuses primarily on research assessing (1) the extent of compliance with the requirements of the relevant segmental reporting standards (Section 5.2.1) and (2) the relationship between different company characteristics and the companies' level of compliance (Section 5.2.2)

5.2.1 Compliance with IASs / IFRSs

Compliance with IASs / IFRSs has been a continuous issue in the last two decades. Prior research assessed the extent of compliance with the disclosure requirements of IASs / IFRSs and documented considerable level of non-compliance in many areas. (Rahman, 1998; Street et al., 1999; Tower et al., 1999; El-Gazzar et al., 1999; Street and Bryant, 2000; Street and Gray, 2001 and 2002; Taplin et al., 2002; Camfferman and Cooke, 2002; Glaum and Street, 2003; Abd-Elsalam and Weetman, 2003 and 2007; Chatham, 2004 and 2008; Al-Ulis, 2006; Hodgdon et al., 2008; Fekete et al., 2008; Al-Jabri, 2008; Hodgdon,

[29] with a focus on compliance with the segmental reporting requirements of IAS 14, IAS 14R and IFRS 8

et al., 2009; Al-Shammari et al., 2008; Tsalavoutas, 2009 and 2011; Mechelli, 2009; Carlin and Finch, 2011; De Vicente Lama, 2011; Bova and Pereira, 2012).

Despite obvious non-compliance with IAS requirements companies frequently noted full compliance with IASs in their annual reports. Concerned about the problem the IASC tried to reduce non-compliance by requiring companies to report any material departure from IASs and not to report full compliance with IASs unless they comply with all the requirements of each applicable standard (IAS 1, 1.20). (IAS 1R, effective from 1998) Research results suggest that non-compliance remained a problem. (see later in this section) Thus, what the companies actually do in practice (de facto) is not always the same as what the companies should do (de jure). To be useful for its users financial information needs to be comparable. However, if companies do not comply with the accounting standards the convergence of these standards may not result in the convergence of accounting practices. Therefore, the quality and comparability of the financial statements remain a concern.

Evidences from compliance studies revealed that the level of compliance varied across standards. The results also indicated that the compliance with IASs / IFRSs requiring the disclosure of more proprietary information such as IAS14 and IAS 14R was usually below the average level of compliance. (Street and Bryant, 2000; Al-Shammari et al., 2008; Tsalavoutas, 2011) (Table 5.2) Thus, segmental reporting is one of the areas of particular concern. Rahman (1998) found that the overall level of compliance with the disclosure requirements of IAS 14 was between 7% - 30% for the sample companies. Later Taplin et al. (2002) found about the same compliance level when they used more strict compliance indices. Both studies focused on the Asia-Pacific area. Al-Shammari et al. (2008) investigated the Gulf Co-Operation Council member states and found less than 50% compliance with IAS 14 and with IAS 14R. Street and Bryant (2000) and Street and Gray (2001, 2002) studied international samples. Although, they found a higher level of average compliance, their results still indicate considerable non-compliance with IAS 14. For example, Street and Bryant (2000) found that the average level of compliance in regard to geographic disclosures is only 60%. Street and Gray (2001, 2002) found that the average level of compliance with IAS 14 was 76% for the whole sample. However, the more detailed results revealed that the compliance by country varies within a wide range (from 66% in China to 85% in Germany). (Table 5.1)

Table 5.1 Compliance with mandatory segmental reporting disclosures in prior studies

Author	Country	Year[30]	Standard	Sample	Compliance level		
Rahman (1998)	Korea Thailand Indonesia Malaysia Philippines	1997	IAS 14	90	Segment information checklist & overall compliance (Source: Rahman, 1998; table 5.2, p26):		
					Industry segments described		30%
					Geographic segments described		7%
					Sales revenue of each of the segments, amount disclosed		30%
					Operating result of each of the segments, amount disclosed		30%
					Segment assets employed, amount disclosed		27%
					Intersegment sales, amount disclosed		11%
Taplin et al. (2002)	Australia Hong Kong Malaysia Philippines Singapore Thailand	1997	IAS 14	60	NDV compliance index *("... the proportion of occasions where a company complies with the IAS after items where compliance is not discernible or not applicable have been removed."* P180)	Disclosure	97%
						Measurement	100%
						Combined	99%
					DNI index *("... the proportion of items where compliance was discernible – either compliance or non-compliance was clear – "* p181)	Disclosure	36%
						Measurement	20%
						Combined	32%
Street and Bryant (2000)	International	1998	IAS 14	82	the average level of compliance in regard to geographic disclosures is 60%		
Street and Gray (2001 & 2002)	International	1998	IAS 14	279	the average level of compliance is 76%;		
					compliance by country: China: 66%; Switzerland: 83%; Germany: 85%; France: 62%; Other Western Europe: 75%		

[30] examined

Table 5.1 (continued) Compliance with mandatory segmental reporting disclosures in prior studies

Author	Country	Year	Standard	Sample	Compliance level		
Street and Nichols, 2002	International	1999	IAS 14R	210	*"The research ... identified several instances where it appears companies may not be fully complying with all the ... disclosure guidelines."* (p91)		
					Compliance by segmentation (Source: Street and Nichols, 2002, table 6&9, p102 & 107):		
					Required item	Primary segment	Secondary segment
					External revenue	100%	95%
					Profitability measure	99%	-
					Assets	93%	65%
					Liabilities	76%	-
					Capital addition	81%	57%
					Depreciation	77%	-
					Other non-cash items	20%	-
					Equity method income	26%	-
Prather-Kinsey & Meek (2004)	International	1997-99	IAS 14R	120	*"There is substantial non-compliance with IAS 14R."* (p229)		
					Compliance by segmentation (Source: Prather-Kinsey and Meek, 2004, table 7, p225):		
					Required item	Primary segment	Secondary segment
					External revenue	93%	70%
					Internal revenue	34%	-
					Results	76%	-
					Assets	74%	47%
					Liabilities	65%	-
					Capital expenditures	54%	33%
					Depreciation and amortisation	68%	

Table 5.1 (continued) Compliance with mandatory segmental reporting disclosures in prior studies

Author	Country	Year	Standard	Sample	Compliance level
Al-Shammari et al. (2008)	Gulf Co-Operation Council Members	1996-2002	IAS 14 IAS 14R	137	the average level of compliance for all years is less than 50%
Tsalavoutas (2011)	Greece	2004-05	IAS 14R	95	the average level of compliance is 71%

Research documented non-compliance with IAS 14. Therefore, it is of interest to know whether modification to the standard (IAS 14R) resulted in a greater compliance. Street and Nichols (2002) and Prather-Kinsey and Meek (2004) found that companies responded to the new regulatory requirements (increased number of segments, increased number of segment items) but the compliance with the standard remained a concern. Both studies found that a substantial minority of the companies failed to disclose items required by IAS 14R. In a more recent research Tsalavoutas (2009 and 2011) examined the compliance of Greek listed companies' disclosure practice with mandatory disclosure requirements of selected IASs / IFRSs. The author found approximately 80% overall level of compliance (for all the IASs / IFRSs he studied). However, the average level of compliance with IAS 14R was lower, only 71% with considerable variation between the compliance levels of individual companies (25% standard deviation). (Table 5.2)

Table 5.2 Average level of compliance with IAS / IFRS requirements

Author(s)	Average level of compliance with IAS 14 / IAS 14R	Overall level of compliance	
Street & Bryant (2000)	for geographic disclosure → 60%	with US listing	84.3%
		without US listing	77.4%
Street & Gray (2001, 2002)	▪ overall sample: 76% ▪ China: 66% ▪ Switzerland: 83% ▪ France: 62% ▪ Germany: 85% ▪ Other W. Europe: 75%	each IAS weighted equally	72%
		each item of disclosure weighted equally	74%
Al-Shammari et al. (2008)	average for all years less than 50%	1996	68%
		2002	82%
Tsalavoutas (2011)	71%	approximately 80%	

More recently studies examined the effects of the introduction of IFRS 8 and found that relatively high percentage of the sample companies failed to provide the mandatory entity-wide disclosures. (e.g. Pardal and Morais, 2011; Crawford et al., 2012a; Nichols et al., 2012) Crawford et al. (2012a) analysed the first adoption of IFRS 8 of a sample of 150 UK listed companies and found that 85% (55%) of the sample companies provided revenue from external customers (non-current assets) by geographic areas. Furthermore, only 38% of the companies disclosed information about their major customers. (Table 5.3)

Studies analysing the items disclosed for each reportable segment under IFRS 8 also found that a proportion of the sample companies failed to provide segment profit / loss information. (e.g. Pisano and Landriana, 2012 → 6%[31]; Crawford et al., 2012a → 11%[32]) (Table 5.3)

Table 5.3 Summary of the findings of studies on IFRS 8: Percentage of companies providing information on selected disclosure requirements of IFRS 8

Compliance with IFRS 8	Crawford et al., 2012a	Nichols et al., 2012	Pisano & Landriana, 2012	Pardal & Morais, 2011	Mardini, 2012
Country	UK	inter-national	Italy	Spain	Jordan
Sample size	150	335	124	131	109
Segment results	89.00	100.00	94.00	100.00	68.90
Revenue from external customers by product and services	80.00	17.00	-	13.70	-
Revenue from external customers by geographic area	85.00	77.00	-	55.00	-
Non-current assets by geographic area	53.00	67.00	-	-	-
Information about major customer	38.00	6.00	-	19.10	-

5.2.2 Company characteristics and compliance

Research found evidence that certain company characteristics are associated with the companies' disclosure practice and their level of compliance with IASs / IFRSs. The factors considered in prior studies include structure related (e.g. size, gearing), performance related (e.g. profitability, liquidity), and market related (e.g. industry type, auditor type) characteristics. (e.g. Lang and Lundholm, 1993; Wallace et al., 1994; Wallace and Naser, 1995; Camfferman and Cooke, 2002; Tsalavoutas, 2009 and 2011) Findings of these studies indicate that size, cross listing, and being audited by one of the big international audit firms are significantly positively associated with the level of

[31] percentage of non-disclosing companies = 100% - 94% = 6%
[32] percentage of non-disclosing companies = 100% - 89% = 11%

compliance. However, research found mixed or no relationship between the level of compliance and other company characteristics (e.g. gearing, liquidity, profitability etc.).

Pardal and Morais (2011) (for a sample of 99 non-financial Spanish companies) and Pisano and Landriana (2012) (for a sample of 124 listed non-financial Italian companies) analysed the effect of different company characteristics on the number of items disclosed by the companies for each operating segments. The studies found that the bigger the company, the more item is disclosed for each operating segments. Pardal and Morais (2011) calculated a disclosure index by dividing the total number of items reported by the total number of items required by IFRS 8 and treated it as a compliance score. However, most of the items required by IFRS 8 for each operating segments only need to be disclosed if they are included in the calculation of segment profit / loss or are regularly reported to the CODM. (Table 2.1) Therefore, many of the items listed in IFRS 8 become voluntary. Thus, the disclosure score calculated by Pardal and Morais (2011) is rather a kind of quality measure than a measure of compliance.

Prior research related to compliance with IASs / IFRSs (in general) and with IAS 14, IAS 14R and IFRS 8 (in particular) have been reviewed in this Section. Research provides evidences of non-compliance with the segmental reporting requirements of the relevant international standards. Thus, although segment information disclosure is mandatory the actual segment information provided by the companies may vary considerably in quality.

5.3 Research Objective and Research Questions

The objective of this part of the thesis is (1) to carry out an empirical investigation into the extent of compliance with the requirements of IFRS 8 and (2) to attempt to explain varying levels of compliance amongst the sample of companies.

Building on prior research and its findings (Section 5.2) this study assesses the compliance with IFRS 8 and examines the factors that may be associated with non-compliance. (RO_1) In order to address this research objective the following specific research questions will be answered.

$RQ_{1.1}$: What is the level of compliance with the segmental reporting requirements of IFRS 8?

$RQ_{1.2}$: What company characteristics are associated with the extent of compliance with the disclosure requirements of IFRS 8?

5.4 Hypothesis development

The purpose of this Section is to develop hypotheses about the relationship between a company's compliance with the requirements of IFRS 8 and its different company characteristics.

Prior literature suggests that numerous factors could affect compliance with financial reporting requirements. Different compliance studies used more than 20 different factors / independent variables to explain the extent of compliance with the requirements of IFRSs. (Table 5.4) Findings of these studies (Section 5.2) and the theories introduced earlier (Section 2.3) are used to develop hypotheses (stated in alternative form) to answer the research questions. (Section 5.3)

Enforcement – The auditor

Independent audit and audit quality plays an important role to influence companies to comply with the requirements of the accounting standards. Wallace et al. (1994) argue *"that the contents of annual reports and accounts are not only audited but also influenced by auditors"* (p47) (Regulation and enforcement) Jensen and Meckling (1976) and Watts and Zimmermann (1983) argued that large audit companies act as a mechanism to reduce agency cost by limiting managers' opportunistic behaviour. (Agency theory) The choice of an external auditor (e.g. BIG 4) can also signal to investors that the annual reports of the company are audited with high quality. (Signalling theory) Additionally, theories in audit quality (such as large auditors 1) have better reputation and brand name; 2) are more concerned to maintain their reputation; 3) have more to lose in the event of litigation; 4) have greater expertise and knowledge; 5) provide more monitoring and knowledge etc.) suggest that audit quality and therefore the quality of accounting information is positively associated with audit firms size. Empirical studies used audit firm size (generally the dichotomous BIG N / non-BIG N variable) to capture audit quality (measured by e.g. financial restatements, abnormal accruals, disclosure quality, compliance) differences.

Consistent with the theoretical background empirical research shows that larger audit firms provide higher quality audit services. (Francis, 2004 and 2011; Carlin et al., 2007, 2009, 2011) Several studies analysed the effect of audit company choice on compliance with IFRS requirements by categorising audit firms whether an auditor was one of the big international audit companies or not. Most of the studies found positive relationship between the size of auditor and the level of compliance with IAS requirements. (Abd-Elsalam and Weetman, 2003 and 2007; Al-Jabri, 2008; Camfferman and Cooke, 2002; Glaum & Street, 2003; Hodgdon et al., 2009; Prather-Kinsey & Meek, 2004; Street and Gray, 2001 and 2002; Tsalavoutas, 2009 and 2011) Thus, being audited by big international audit firms is associated with increased level of compliance compared to being audited by smaller audit firms. Employing a big international audit company acts as one of the monitoring mechanisms and leads to a reduction of agency costs. (Tsalavoutas, 2009 and 2011)

The audit market for listed companies is dominated by the BIG 4 audit companies. (Macey and Eisenberg, 2004; Francis, 2011; Carlin et al., 2007, 2009) With the exception of 6 companies (3%), the sample companies of this study were audited by one of the BIG 4 international audit firms (PWC, Deloitte, KPMG, Ernst & Young). Therefore, this study will not compare the compliance of companies audited by one of the BIG 4 audit firms with the compliance of companies audited by other audit firms. Managers may intentionally employ big international audit companies to signal the high quality audit. However, the assumption of the homogenous audit quality across the BIG N audit companies has been questioned in more recent audit quality research (e.g. Glaum and Street, 2003; Macey and Eisenber, 2004; Tilis, 2005; Carlin et al., 2007, 2009) There is some evidence to support the hypothesis that the audit quality significantly varies among BIG N audit companies. Glaum and Street (2003) found significant differences between the average compliance levels of the companies audited by the different BIG 5 audit companies. However, they used one dichotomous variable in their regression model to differentiate between companies audited by one of the BIG 5 audit companies and companies audited by other audit companies. Carlin et al. (2007) (Carlin et al, 2009) found that the identity of the audit companies seems to explain a substantial proportion of the variation in disclosure quality and compliance levels of the goodwill impairment testing disclosures made by a sample of 50 (34) Australian (Malaysian) listed companies audited by the BIG 4 audit companies. They used descriptive statistics to investigate the audit quality difference across BIG 4 audit companies.

This study distinguishes between the BIG 4 audit service providers (with the code A, B, C and D to preserve aninomity) to examine the effect of auditor choice on the level of compliance with the requirements of IFRS 8.

H_{a1}: The degree of compliance with the disclosure requirements of IFRS 8 is associated with the identity of the auditor.

Market competition

Prior research (Hayes and Lundholm, 1996; Harris, 1998; Botosan and Stanford, 2005; Birt et al., 2006; Pisano and Landriana, 2012) suggests that a higher level of competition may decrease the competitive harm associated with segment disclosure. Thus, companies operating in more competitive industries might have greater incentive to disclose more segmental information, because it is less likely that the disclosure will harm their competitive position in the market. (Proprietary theory) *"In fact, the release of additional information could benefit the firm by reducing information asymmetries between management and shareholders."* (Birt, et al., 2006, p236) (see more in Section 2.4.4)

In this study two variables (the HHI and capital intensity) are used to proxy for market competition. The four-firm (eight-firm) concentration ratio and / or Herfindahl-Hirschamn Index (HHI) (Equation 5.1) is widely used to proxy the level of industry competition. (Ettredge et al., 2002; Harris, 1998; Berger and Hann, 2002, 2003 and 2007; Ettredge et al., 2006; Birt et al., 2006; Wang et al., 2011; Wang and Ettredge, 2014; Bens et al., 2011) In this study the HHI index is used to proxy for market competition because it takes into account both the relative size and the distribution of the companies in a market. The higher the index, the higher (lower) the concentration (competition) in the market. (Equation 5.1)

(Equation 5.1)

$$HHI = \sum_{i=1}^{n} \left(\frac{s_i}{S} \right)^2$$

Where

s_i = sales of company *i*

S = the sum of sales for all companies in the industry

$\frac{s_i}{S}$ = market share of company *i*

n = the number of companies in the industry

Capital intensity is an indicator of the barriers to entry in a market. Therefore, it can be used as a negative proxy for market competition. (Givoly et al., 1999; Leuz and Verrecchia, 2000; Wang et al., 2011) The higher the capital intensity the more difficult to enter to the market. Thus, the higher the capital intensity, the lower the market competition. Capital intensity is measured as net PPE divided by total assets.

This study measures the competition of each industry sector by using the HHI and the capital intensity of the companies.

H_{a2}: The market competition is positively associated with the level of compliance with the disclosure requirements of IFRS 8.

Early adoption

The study focused on the first adoption of the new segmental reporting requirements. There are companies within the sample that adopted the new standard earlier than its effective date. Early adoption enables other companies to learn from the disclosure practice of the early adopters (Tsalavoutas, 2009 and 2011) and prepare themselves for the new requirements. On the other hand, companies might choose to adopt the new standard earlier, because they were already prepared for the requirements of the new regulation (e.g. because of their US listing, because the managements approach did not result in change in reporting segments etc.). Additionally, early adopter companies might choose to adopt an IFRS earlier than its effective date to (1) signal to the market and to the different stakeholders and (2) differentiate themselves from their competitors. (Signalling theory, Agency theory) It is therefore of interest to examine whether the date of adoption (early adoption or not) of the new regulation has any effect on the level of compliance of the sample companies.

H_{a3}: Early adoption is associated with the extent of compliance with the disclosure requirements of IFRS 8.

Size

Large firms more likely have lower information production cost, sufficient resources and expertise to produce and provide more information. (Cooke, 1989; Ali et al., 2004)

Additionally, larger companies are more likely followed by financial analyst and investors and disclose more information to (1) reduce risk associated with information asymmetry, (2) increase investors' and debt providers' confidence, (3) reduce their cost of capital and (4) facilitate investors' better resource allocation. (Botosan, 1997; Lang and Lundholm, 1996; Elliott and Jacokbson, 1994) (Capital need theory) However, political, agency, proprietary cost and competition (e.g. entry barriers) on the market also can motivate companies to disclose more (less) information (e.g. Jensen and Meckling, 1976; Watts and Zimmerman, 1978 and 1990; Dye, 1986; Hayes and Lundholm, 1996; Nagarajan and Sridhar, 1996) when complying with the requirements of accounting regulations. Watts and Zimmerman (1986) argued that larger companies are more politically visible and are more likely to be subject to wealth transfer as a result of government intervention. Therefore, a company may disclose more, better quality information in order to reduce its political cost (Political cost theory) and enhance the company's public image (Signalling theory). The authors also argued that politicians and government bureaucrats who are responsible for regulating financial reporting are influenced by the likelihood of any future crisis blamed on them. (Regulation and enforcement) It can be argued that detailed segmental information is more likely commercially harmful for smaller companies than for bigger ones. (Katselas et al., 2011; Bens et al., 2009) (Proprietary theory) The larger the company it is more likely that it operates in more business and / or geographical areas. The management of these companies might consider to provide more (less), better (worse) quality information about the company's activities in different business and / or geographical areas to help financial statement users to evaluate risks and prospects related to these areas (to hide earning management between the different segments or conceal the management' empire building plans). (Hann and Lu, 2009; Wang and Ettredge, 2014) (Agency theory) Cooke (1998) argues that *"the theoretical relationship is somewhat uncertain"* (p218) between the company size and the level of disclosure.

Several previous empirical studies found significant positive association between company size and the extent of compliance with IASs. (Al-Jabri, 2008; Al-Ulis, 2006; Bova and Pereira, 2012; Camfferman and Cooke, 2002; Chatham, 2004; De Vicente Lama et al., 2011; Fekete et al., 2008; Hodgdon et al., 2009; Prather-Kinsey and Meek, 2004; Al-Shammari et al., 2008; Tsalavoutas, 2009; Pisano and Landriana, 2012) Thus, larger companies have higher level of IASs compliance than smaller companies. On the other hand, Abd-Elsalam and Weetman (2003), Glaum and Street (2003), Street and

Bryant (2000), Street and Gray (2001 and 2002), Taplin et al. (2002) and Tower et al. (1999) did not find significant relationship between company size and compliance level.

Company size can be represented in different ways. Prior compliance studies used total assets (Abd-Elsalam and Weetman, 2003; Camfferman and Cooke, 2002; Taplin et al., 2002; Tower et al., 1999; Street and Bryant, 2000; Street and Gray, 2001 and 2002; Prather-Kinsey and Meek, 2004; Al-Ulis, 2006; Al-Jabri, 2008; Bova and Pereira, 2012; Fekete et al., 2008; Al-Shammari et al., 2008; De Vicente Lama et al., 2011; Pisano and Landriana, 2012), total sales (Street and Gray, 2001 and 2002; Hodgdon et al., 2009; Fekete et al., 2008), market capitalisation (Chatham, 2004 and 2008; Street and Gray, 2001 and 2002; Al-Jabri, 2008), firm value (Glaum and Street, 2003; Tsalavoutas, 2009) and number of employees (Chatham, 2004 and 2008) to proxy company size. However, Cooke (1989, 1992) indicated that *"there is no overwhelming theoretical reason to prefer one size variable to another"*. (Cooke, 1992, p232)

Additionally, Crawford et al. (2012a) found differences between the segmental disclosure practice of the FTSE 100 (bigger) and the FTSE 250 (smaller) companies. The FTSE 250 companies reported fewer reportable segments, they provided generally lower level entity-wide information and used fewer words in their segmental note. On the other hand FTSE 250 companies provided greater disclosure about major customers, and disclosed finer geographic information than the FTSE 100 companies. The authors argue that *"some of this difference may be due to the fact that these are smaller companies"* that *"more likely to have major customers to meet the threshold requirements of IFRS 8"* and they *"may not operate in very many regions"*. (p26)

In this study total sales and FTSE 100 /250 listing status are used as the measure of company size. Since prior research produced mixed results no direction is predicted regarding the effect of company size on the level of IFRS 8 compliance.

H_{a4}: Company size is associated with the extent of compliance with the disclosure requirement of IFRS 8.

The company's capital structure - Gearing

Gearing is considered as a proxy for the financial risk of a company. Jensen and Meckling (1976) suggest that companies with higher gearing (more debt in their capital structure)

can be expected to have higher agency cost. Thus, the more highly geared the company is, the greater the necessity to ensure an efficient monitoring (e.g. through the company's annual reports) of the agency relationship between the managers and creditors and / or managers and shareholders. (Jensen and Meckling, 1976; Dumontier and Raffournier, 1998) Therefore, it is likely that highly geared companies provide more disclosure and comply with the requirements of IASs / IFRSs to mitigate agency cost and signal to the market (both to investors and debt providers) that they are capable to meet their obligations. The opposite can also be argued. Companies with low gearing depend on equity financing which might result in an increased interest in information from the current and potential shareholders. (e.g. Zarzeski, 1996) Additionally, companies with higher level of gearing might provide less information in their annual reports in order to conceal the level of financial risk associated with the higher proportion of debt financing in the companies' capital structure. (e.g. Hossain, 1999) (Agency theory and Signalling theory)

Some empirical studies found that the level of compliance is associated with gearing (positive association: Camfferman and Cooke, 2002; Al-Shammari et al., 2008; De Vicente Lama et al., 2011; Bova and Pereira, 2012; negative association: El-Gazzar et al., 1999; Abd-Elsalam and Weetman, 2003 and 2007; Pisano and Landriana, 2012). However, other studies could not find any significant connection between the level of compliance and the company's capital structure (Tower et al., 1999; Taplin et al., 2002; Al-Jabri, 2008; Fekete et al., 2008; Hodgdon et al., 2009; Tsalavoutas, 2011). Thus, the relationship between the company's capital structure and its level of disclosure / compliance is unclear. However, both theoretical and empirical research indicate that there might be an association between them.

H_{a5}: Gearing is associated with the extent of compliance with the disclosure requirements of IFRS 8.

Liquidity

A company's ability to meet its short-term financial obligations is one of the important factors in evaluating of a company by users of financial statements. It can be argued that the better the liquidity position of the company, the greater the incentive to signal this condition to the market. Thus, companies with higher liquidity ratio will present more disclosure and have greater compliance. (Signalling theory) On the other hand, it may

also be argued that a company with a low liquidity ratio might be keen on disclosing additional information and complying with IASs / IFRSs in order (1) to reduce agency cost and (2) to inform its financial statement users (especially its shareholders and lenders) that necessary actions have been taken and the company is a going concern. (Camfferman and Cooke, 2002; Wallace and Naser, 1995; Al-Shammari et al., 2008) (Agency theory) Thus, the direction of the relationship (if there is any) can be either positive or negative.

Previous empirical studies also show inconsistent results regarding the relationship between the level of compliance with IASs / IFRSs and the company's liquidity position. (Camfferman and Cooke, 2002; Abd-Elsalam and Weetman, 2007; Al-Shammari et al., 2008; Tsalavoutas, 2011)

H_{a6}: The extent of compliance with the disclosure requirements of IFRS 8 is associated with the company's liquidity.

Profitability

Watts and Zimmermann (1986) argued that companies with larger profits could be more interested in disclosing more detailed information in their annual reports in order to reduce political cost and justify their performance. (Political cost theory) It is also likely that these companies wish to signal to the different market participants 1) their success and strength (Signalling theory) and 2) that they act as a good agent (Agency theory).

Profitability is a popular variable in compliance studies. Several prior studies examined the association between profitability and level of compliance with IAS requirements. However, with the exception of a few studies the researchers found that profitability did not have significant effect on the companies' level of compliance. (Table 5.4) Taplin et al. (2002) found that the more profitable companies tend to have higher level compliance. On the other hand, Camfferman and Cooke (2002), Hodgdon et al. (2009) found negative association between profitability and IAS compliance. Interestingly, De Vicente Lama et al. (2011) found both significant positive (for 2005) and significant negative (for 2008) association within one study. The authors explained the different sign by the change in the economic situation in which the companies operated. In summary, the empirical results suggest that the level of compliance with IAS could be either higher or lower, significant or not in relation to company profitability.

Table 5.4 Independent variables used in prior research investigating determinants of compliance with IAS/IFRS mandatory disclosures

Variable	Significant		Not significant
	+	-	
Size	Al-Jabri, 2008; Al-Ulis, 2006; Bova & Pereira, 2012; Camfferman & Cooke, 2002; Chatham, 2004; De Vicente Lama et al., 2011; Fekete et al., 2008; Hodgdon et al., 2009; Prather-Kinsey & Meek, 2004; Al-Shammari et al., 2008 Tsalavoutas, 2011; Pisano and Landiana, 2012		Abd-Elsalam & Weetman, 2003; Glaum & Street, 2003; Street & Bryant, 2000; Street & Gray, 2001, 2002; Taplin et al., 2002; Tower et al., 1999;
Gearing / Leverage	Bova & Pereira, 2012; Camfferman & Cooke, 2002; Al-Shammari et al., 2008 De Vicente Lama et al., 2011;	Abd-Elsalam & Weetman, 2003; Abd-Elsalam & Weetman, 2007; El-Gazzar et al., 1999; Pisano and Landriana, 2012	Al-Jabri, 2008; Fekete, et al., 2008; Hodgdon et al., 2009; Taplin et al., 2002; Tower et al., 1999; Tsalavoutas, 2011; De Vicente Lama et al., 2011;
Profitability	De Vicente Lama et al., 2011; Taplin et al., 2002;	Camfferman & Cooke, 2002; De Vicente Lama et al., 2011; Hodgdon et al., 2009; Pisano and Landriana, 2012	Abd-Elsalam & Weetman, 2003; Abd-Elsalam & Weetman, 2007; Al-Jabri, 2008; Al-Ulis, 2006; Bova & Pereira, 2012; Fekete, et al., 2008; Glaum & Street, 2003; Street & Bryant, 2000; Street & Gray, 2001, 2002; Tower et al., 1999; Tsalavoutas, 2011;
Industry	Abd-Elsalam & Weetman, 2003, 2007; Al-Jabri, 2008; Camfferman & Cooke, 2002; Fekete, et al., 2008; Prather-Kinsey & Meek, 2004; Street & Gray, 2001, 2002; Taplin et al., 2002; Al-Shammari et al., 2008 Tsalavoutas, 2011;		Al-Ulis, 2006; De Vicente Lama et al., 2011; Glaum & Street, 2003; Street & Bryant, 2000; Tower et al., 1999; Al-Shammari et al., 2008
Auditor type (big international)	Abd-Elsalam & Weetman, 2003 and 2007; Al-Jabri, 2008; Camfferman & Cooke, 2002; Glaum & Street, 2003; Hodgdon et al., 2009; Prather-Kinsey & Meek, 2004; Street & Gray, 2001, 2002; Tsalavoutas, 2011;		Al-Ulis, 2006; De Vicente Lama et al., 2011; Fekete, et al., 2008;

Table 5.4 (continued) Independent variables used in prior research investigating determinants of compliance with IAS/IFRS mandatory disclosures

Variable	Significant		Not significant
	+	-	
Liquidity	Camfferman & Cooke, 2002;	Abd-Elsalam & Weetman, 2007;	Tsalavoutas, 2011; Al-Shammari et al., 2008
International visibility (internationality)	El-Gazzar et al., 1999; Al-Shammari et al., 2008		Fekete, et al., 2008; Glaum & Street, 2003; Street & Gray, 2001, 2002;
Compliance note (the company refers to IAS)	Street & Gray, 2001, 2002;		Street & Bryant, 2000;
Audit opinion (refers to compliance with IASs)	Abd-Elsalam & Weetman, 2003; Chatham, 2004 & 2008 Street & Bryant, 2000;		Street & Gray, 2001, 2002;
Audit standards (auditor follows ISAs)	Street & Bryant, 2000;		Abd-Elsalam & Weetman, 2003; Hodgdon et al., 2009; Street & Gray, 2001, 2002;
Country of domicile	Chatham, 2004 & 2008; Prather-Kinsey & Meek, 2004; Street & Gray, 2001, 2002; Taplin et al., 2002; Tower et al., 1999; Al-Shammari et al., 2008		De Vicente Lama et al., 2011; Glaum & Street, 2003;
Listing status	El-Gazzar et al., 1999; Glaum & Street, 2003; Prather-Kinsey & Meek, 2004; Street & Bryant, 2000; Street & Gray, 2001, 2002;		Fekete, et al., 2008; Hodgdon et al., 2009;
Level of foreign direct investment	Al-Ulis, 2006; Bova & Pereira, 2012;		Al-Jabri, 2008;
Capital intensity			Al-Jabri, 2008;
Growth			Glaum & Street, 2003;
Growth optins			Bova & Pereira, 2012; Glaum & Street, 2003;
Ownership structure		Al-Ulis, 2006;	Al-Jabri, 2008; Glaum & Street, 2003; Al-Shammari et al., 2008;
Age of maturity	Al-Shammari et al., 2008;		Glaum & Street, 2003;
Activity on capital market			Al-Ulis, 2006;
Length of time to report	Tower et al., 1999;		Taplin et al., 2002;
International diversification			Hodgdon et al., 2009;
Analyst following	Chatham, 2004 & 2008		
Market competition	Pisano and Landriana, 2012		Bova & Pereira, 2012;
Enforcement		Al-Shammari et al., 2008;	

Prior studies used return on capital employed (Abd-Elsalam and Weetman, 2007), net income / profit before tax to sale (Camfferman and Cooke, 2002; Tsalavoutas, 2009), return on equity (Camfferman and Cooke, 2002; Street and Bryant, 2000; Street and Gray, 2001 and 2002; Hodgdon et al., 2009; Glaum and Street, 2003; Al-Jabri, 2008; Al-Ulis, 2006; Fekete, et al., 2008) and return on total assets (Taplin et al., 2002; Tower et al.,

1999; Al-Jabri, 2008; De Vicente Lama et al., 2011; Pisano and Landrina, 2012) to measure profitability.

In this study, profitability measured by the return on shareholders' funds. No prediction regarding the direction of relationship is made because of the mixed findings of the previous studies.

H_{a7}: Profitability is associated with the degree of compliance with the disclosure requirements of IFRS 8.

Growth rate

Glaum and Street (2003) argue that the higher a company's growth rate the higher its future funding requirements. These higher future funding requirements can encourage the company to provide financial statement users with better quality information (more disclosure, greater level of compliance etc.) (Capital need theory and Signalling theory) However, high growth rates could also be an indication of the empire building activity of the company's management (greater company size → greater status, power, prestige etc.). Thus, it is also can be argued that companies with higher growth rate might have lower level of compliance and disclosure quality in their annual report to disguise the management's empire building. (Hope and Thomas, 2008) (Agency theory)

Glaum and Street (2003) did not find any significant relationship between the level of compliance and the company's growth. However, Hope and Thomas (2008) found that the nondisclosure of geographic earnings is associated with a significant increase in foreign sales growth. They concluded, that this is an indication that the managers try to reduce the shareholder's ability (by reducing the disclosure quality) to monitor their expanding international operations. (Agency theory) Additionally, one can argue that this result could be due to proprietary reasons as well. The preparers might try to reduce the competitors' ability to monitor their activities in different geographic locations. (Proprietary cost theory)

H_{a8}: The degree of compliance with the disclosure requirements of IFRS 8 is associated with the company's growth rate.

Organisational structure – Type of reporting segment

Herrmann and Thomas (1997) analysed the potential impacts of the proposed SFAS 131 and argued that the impact of the new regulation on the quality of geographic segment disclosure will depend on how companies define their operating segments under the management approach. Companies decide operating segments other than geographic areas might provide limited geographic information under the new standard. Empirical studies analysed the actual impact of SFAS 131 on the segmental disclosure practice of US companies. However, these studies did not compare the disclosure practice of the companies with different type of reporting segments.

In a more recent study Aleksanyan and Danbolt (2012) found that companies organised around business areas substantially increased the disclosure of single-country segments. Whereas, the proportion of single-country segments disclosed by companies organised around geographical areas decreased under IFRS 8. The authors argue that companies organised around business areas can afford to disclose more single-country information because they do not have to disclose profitability measures for the disclosed countries.

Thus, it can be argued that the companies might use their "organisational structure" to hide information from investors and debt providers (Agency theory), form competitors (Proprietary theory) and from governments and their agencies (Political cost theory).

Thus, how management organises the entity (around products, services, geographic areas, combination of them) is expected to have an impact on the companies' disclosure quality and on the level of their compliance.

H_{a9}: The degree of compliance with the disclosure requirements of IFRS 8 is associated with the type of reporting segment.

Industry

Different sectors of the economy might have different reporting practice (because of e.g. the different competition, political cost) and therefore different level of compliance. (Cooke, 1992; Prather-Kinsey and Meek, 2004) (Agency theory, Signalling theory, Political cost theory and Proprietary cost theory)

Different studies used different industry categorisation. Many of them (Abd-Elsalam and Weetman, 2003, 2007; Al-Jabri, 2008; Street and Bryant, 2000; Tsalavoutas, 2011) used a dichotomous variable to differentiate manufacturing and non-manufacturing industries. Others used more than one variable to introduce industry into their analysis. For example Glaum and Street (2003) used 6 dummy variables for 7 industry classes.

Previous studies show mixed results regarding the relationship between the level of compliance with IASs and industry. Some of the studies indicate that companies in the manufacturing (Abd-Elsalam and Weetman, 2003, 2007; Camfferman and Cooke, 2002; Tsalavoutas, 2011), IT and communication (Fekete et al., 2008; Street and Gray, 2001, 2002), transportation (Street and Gray, 2001, 2002), capital equipment (Prather-Kinsey and Meek, 2004) industries tend to have higher level of IAS compliance. However, Al-Ulis (2006), Glaum and Street (2003), Street and Bryant (2000), Tower et al. (1999) and De Vicente Lama et al. (2011) did not find significant association between the compliance level and industry type.

Despite the mixed empirical results it can be argued that the industry a company belongs to may affect the company's level of compliance with the IFRS 8 requirements.

H_{a10}: The industry a company belongs to is associated with the level of compliance with the disclosure requirements of IFRS 8.

Internationality – International visibility

Companies with international activities have diverse stakeholder groups (e.g. different tax authorities and stock exchange regulators; more foreign suppliers, customers, finance providers, employees etc.) (Agency theory, Regulation and enforcement) On the one hand we can assume that the more internationally visible the company, the greater the quality of the disclosure it provides to fulfil the information needs of its stakeholders. For example, those companies whose shares are multiple listed face greater capital market exposure and pressure for disclosure compared to domestically listed companies. (Capital need theory) On the other hand an internationally more visible company might prefer to hold back certain information (e.g. geographic details) to reduce its proprietary and / or political costs and / or hide some information from its shareholders and debt providers. (Agency theory, Proprietary theory and Political cost theory)

Prior research revealed significant association between listing status and compliance with IAS requirements. El-Gazzar et al. (1999) and Prather-Kinsey and Meek (2004) found that the higher the number of stock exchanges on which the company listed the greater the level of compliance with IASs. Furthermore, studies provide evidence that the level of compliance with IASs is significantly higher for companies cross listed in the US. (Street and Bryant, 2000; Glaum and Street, 2003; Street and Gray, 2001 and 2002)

Cross listing / US listing could be one of the company characteristics in explaining the differences in the extent of compliance with IFRS 8. Therefore, a higher level of compliance is expected for cross listed / US listed companies.

In summary, it can be argued that the international visibility of the company affects the quality of the company's disclosure. Different measures (e.g. listing status, number of foreign subsidiaries, foreign sales, foreign assets etc.) can be used to proxy international visibility. In this study the company's international visibility is proxied by its listing status (cross listed / US listed), the number of foreign subsidiaries[33] of the company and the number of foreign countries where the company has subsidiary[34].

H_{a11}: International visibility is associated with the degree of compliance with the disclosure requirements of IFRS 8.

Other company characteristics

Prior research found significant relationship between compliance level and (1) the type of audit standard used by the auditor (the auditor follows ISAs or not) (Street and Bryant, 2000), (2) compliance with the IASs as stated (2a) in the audit report (Abd-Elsalam and Weetman, 2003; Chatham, 2004 and 2008; Street and Bryant, 2000) and (2b) in the company's compliance note (Street and Gray, 2001 and 2002). (Table 5.4) However, these compliance factors are not considered in the current study because the audit reports of the sample companies stated that the companies followed IASs and the sample companies also made IAS compliance note. With the exception of 1 company (where the auditor followed Australian Audit Standards) the auditors stated in their audit report that they followed ISAs during the audit.

[33] principal subsidiaries reported in the company's annual report
[34] in Chapter 6 and Chapter 7 the % of foreign revenues is also used as a proxy

Table 5.5 Summary of the possible links between the different company characteristics[35] and the theoretical framework of corporate disclosure

Hypothesis	Factor	Theory					
		Agency	**Signalling**	**Capital need**	**Proprietary**	**Political cost**	**Regulation**
H_{a1}	Enforcement _ The auditor	X	X				X
H_{a2}	Market competition				X		
H_{a3}	Early adoption	X	X				X
H_{a4}	Size	X	X	X	X	X	X
H_{a5}	Gearing	X	X				
H_{a6}	Liquidity	X	X				
H_{a7}	Profitability	X	X			X	
H_{a8}	Growth rate	X	X	X	X		
H_{a9}	Organisational structure	X			X	X	
H_{a10}	Industry	X	X		X	X	
H_{a11}	International visibility	X		X	X	X	X
H_{a12}	Tax avoidance					X	X

[35] see H_{a12} in Section 6.2

Company characteristics are only included in this study if (1) the association between the company characteristic and the company's compliance with IASs/IFRSs could be justified both theoretically and empirically[36], (2) the company characteristics can be measured reliably and (3) data is available for the company characteristic to be measured.

Table 5.5 attempts to summarise the possible links between the different company characteristics and the theoretical framework of corporate disclosure introduced in Section 2.3.

This Section developed several hypotheses to answer the research questions (Section 5.3). The next Sections (5.6 and 5.7) discuss how these hypotheses are tested. Sample selection is introduced in Section 5.5.

5.5 Sample selection

From the 222 non-financial FTSE 350 companies (see more in Section 4.4) 22 were single segment companies which are only required to disclose entity-wide segmental information. These companies were excluded from the sample companies analysed in this chapter. Thus, the number of companies included in the final sample of this part of the study is 200. (Table 5.6)

Table 5.6 Sample selection process

FTSE350 (as at 22 June 2011)	350
Less: ICB Financials (Banks, Insurance, Financial services)	113
Less: Missing data	15
Less: Single segment	22
Sample size	**200**

5.6 Dependent variable, the compliance score

Prior studies used two methods for measuring compliance. Earlier studies (e.g. El-Gazzar et al., 1999) treated compliance with IASs as a dichotomous variable (full compliance or

[36]Table 1.1 attempts to link the different company characteristics (hypotheses) used in this study with the theoretical framework of corporate disclosure introduced in Section 2.3

non-compliance). Later researchers started to use more sophisticated methods. Most of the studies used one or more, weighted or un-weighted self-constructed disclosure indices as a proxy of compliance. Marston and Shrives (1991) argued that a well-constructed disclosure index can be used as a reliable measurement device for compliance with regulations.

Disclosure (compliance) indices are used to measure the level of compliance with IFRS 8 in this study as well. Beside the primary compliance index (CI1) an alternative index (CI2) was developed for robustness test. The indices are based on the disclosure index used by Cooke (1989, 1992), and later several other researchers (e.g. Street and Bryant, 2000, Street and Gray 2001 and 2002; Prather-Kinsey and Meek, 2004; Al-Shammari et al., 2008; Fekete et al., 2008; Tsalavoutas, 2009 and 2011).

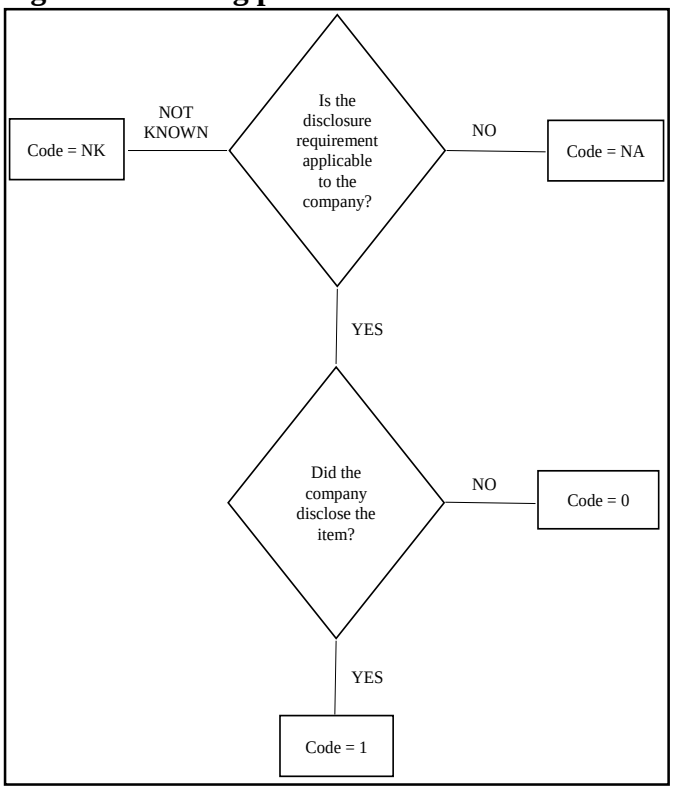
A checklist, which includes 28 mandatory items required by IFRS 8, was developed. To ensure the content validity of the checklist, it was compared with the checklists used by the BIG 4 auditors. (Deloitte, 2009; KPMG, 2009; Ernst & Young, 2009a, PWC, 2009) Additionally the validity and comprehensiveness of the research instrument was reviewed by an independent researcher. On the checklist each required item is coded as disclosed (1), not disclosed (0), not applicable (NA) or not known (NK). (Appendix B. 1 and Figure 5.1)

One can argue that users of Financial Statements (especially Financial Analysts) use every information available for them no matter where and in what form the information is provided by the companies. The checklist is based on items which should be disclosed in the audited Financial Statements and notes. Therefore, any other part of the Annual Report was only considered if it was referred as the information source in the segmental notes.

Measuring compliance with the requirements of IFRS 8 potentially involves a high level of subjectivity. Since IFRS disclosure requirements do not need to be applied to immaterial information and materiality is an entity-specific aspect, it is not always obvious whether disclosure is omitted or whether the item is immaterial (irrelevant) and therefore there is no information to disclose. (Crawford et al., 2012a; Al-Shammari et al., 2008; Tsalavoutas, 2011) For example, if a company does not provide information about its (a) basis of accounting for transactions between reportable segments, (b) major

customers, (c) revenues attributed to foreign countries, (d) non-current assets located in foreign countries it might be simply because the company does not have anything material to disclose. However, without access to additional company information, it is impossible to decide whether the non-disclosure of this information is due to non-compliance with the segment reporting requirements or the immateriality of these items. The undisclosed immateriality is marked as "NK" on the checklist in this study.

Figure 5.1 Coding process



Most of the researchers preferred to calculate un-weighted index which gives the same importance to each disclosure item. Un-weighted indices avoid the additional subjectivity of using weights to express the importance of the individual disclosure items. "*The unweighted approach concentrates on the extent of disclosure rather than on particular items."* (Abd-Elsalam and Weetman, 2003, p71) Therefore, the current research adopts an un-weighted approach for calculating the compliance index.

Six un-weighted compliance indices were calculated for each company. The primary compliance indices (CI1) exclude "NA" items but include "NK" items and treat them as non-compliance. Thus, the companies were penalised for not providing enough information of the applicability of an item. The secondary indices (CI2) exclude both "NA" and "NK" items. Thus, the companies were not penalised if it was obvious that the

item did not apply to the company or if the company did not provide enough information to decide the applicability of the item. (Al-Shammari et al., 2008) The indices measure the degree of compliance by reportable segments (R), by entity-wide disclosures (EWI), and (3) by all of the segment disclosures required by IFRS 8 (T). (Table 5.7, Appendix B. 6)

Table 5.7 Compliance indices calculated in the study

Type of segment disclosure	Number of items required by IFRS 8	Compliance index	
		Primary	Secondary
Reportable segment	18	CI1_R	CI2_R
Entity-wide information	10	CI1_EWI	CI2_EWI
Total	28	CI1_T	CI2_T

The compliance indices were calculated by dividing the total number of required disclosures provided by the company by the number of applicable disclosures. (Equation 5.2), (Equation 5.3) The indices were expressed as a percentage ranging from 0.00 to 100.00.

(Equation 5.2)

$$CI1 = \frac{\sum_{i}^{R} D_i}{R - NA} * 100$$

(Equation 5.3)

$$CI2 = \frac{\sum_{i}^{R} D_i}{R - NA - NK} * 100$$

Where

D = 1 if the item is disclosed and 0 otherwise

R = the number of required items included in the check list

NA = the number of not applicable items for the company

NK = the number of not known items for the company

To ensure the reliability of the research data a randomly selected 5% of the sample companies were double scored by a second researcher. There were no significant differences between the compliance scores calculated by the researchers.

5.7 Results and Analysis

The purpose of this Section is to report and analyse the results of the different statistical methods applied to study the sample companies' compliance with the requirements of IFRS 8.

5.7.1 Descriptive Results

Table 5.8 reports frequency distribution and descriptive statistics for the primary (and secondary) compliance indices described in Section 5.6. The compliance indices (Appendix B. 6, Table 5.8) pile-up on the right of the distribution (high compliance indices) with a heavy-tail on the left (low compliance indices). 72.50%[37] (75.50%[38]) of the companies have compliance score higher than 90% for the reportable segments. On the other hand, only less than a quarter (less than a half) of the companies achieved the same compliance level for the entity-wide information. Half (almost 70.00%) of the companies have greater than 90% overall compliance level. More than two (three) fifths of the companies provided all the necessary information about their reportable segments. However, only less than a quarter (half) of the sample companies fully complied with the entity-wide information requirements of the standard. In most of the cases those companies who had 100.00% compliance index for the reportable segment (entity-wide) requirements of the standard did not provided all the entity-wide (reportable segments) information required by the standard. Therefore, it is interesting to note that only 13.50% (34.50%) of the companies fully complied with all IFRS 8 requirements.

The compliance level for reportable segments range from 29.41% (29.41%) to 100.00% (100.00%), with a relatively high average of 91.28% (92.99%). However, the results reveal a considerable level of non-compliance with the entity-wide disclosure requirements of IFRS 8. The extent of compliance with the entity-wide disclosure requirements range from 0.00% (0.00%) to 100.00% (100.00%), with an average of 76.02% (85.91%). These two parts of the disclosure requirements make the total compliance level range from 40.00% (42.86%) to 100.00% (100.00%), with an average of 86.91% (91.28%). (Table 5.8 and Table 5.10, Appendix B. 6)

[37] primary compliance index
[38] secondary compliance index

Table 5.8 Compliance indices _ Frequency distribution and descriptive statistics

	Reportable segments				Entity-wide information				Segmental information (total)			
	CI1_R		CI2_R		CI1_EWI		CI2_EWI		CI1_T		CI2_T	
	Company				Company				Company			
Compliance index %	**number**	**%**	**number**	**%**	**number**	**%**	**number**	**%**	**number**	**%**	**number**	**%**
0.00 - 10.00	0	0.00	0	0.00	4	2.00	4	2.00	0	0.00	0	0.00
10.01 - 20.00	0	0.00	0	0.00	2	1.00	0	0.00	0	0.00	0	0.00
20.01 - 30.00	1	0.50	1	0.50	0	0.00	1	0.50	0	0.00	0	0.00
30.01 - 40.00	0	0.00	0	0.00	10	5.00	3	1.50	1	0.50	0	0.00
40.01 - 50.00	3	1.50	1	0.50	9	4.50	8	4.00	2	1.00	3	1.50
50.01 - 60.00	3	1.50	5	2.50	22	11.00	3	1.50	4	2.00	2	1.00
60.01 - 70.00	10	5.00	7	3.50	18	9.00	17	8.50	14	7.00	6	3.00
70.01 - 80.00	10	5.00	12	6.00	36	18.00	17	8.50	19	9.50	16	8.00
80.01 - 90.00	28	14.00	23	11.50	52	26.00	49	24.50	60	30.00	36	18.00
90.01 - 100.00	145	72.50	151	75.50	47	23.50	98	49.00	100	50.00	137	68.50
Total	**200**	**100.00**	**200**	**100.00**	**200**	**100.00**	**200.00**	**100.00**	**200**	**100.00**	**200**	**100.00**
100.00	**87**	**43.50**	**121**	**60.50**	**47**	**23.50**	**98**	**49.00**	**27**	**13.50**	**69**	**34.50**
						%						
Mean		**91.28**		**92.99**		**76.02**		**85.91**		**86.91**		**91.28**
Median		94.12		100.00		80.00		90.00		90.24		95.00
Minimum		29.41		29.41		0.00		0.00		40.00		42.86
Maximum		100.00		100.00		100.00		100.00		100.00		100.00
Range		**70.59**		**70.59**		**100.00**		**100.00**		**60.00**		**57.14**
Std. Deviation		**12.52**		**12.26**		**21.75**		**20.05**		**11.82**		**10.80**

Although, the results show a relatively high level of compliance on average, there is still substantial non-compliance especially with the entity-wide segmental information requirements of IFRS 8. Furthermore, there is considerable variation between the compliance levels of individual companies (see high std. deviation in Table 5.8 and Table 5.10, Appendix B. 6).

The study focuses on the first year of the implementation of IFRS 8 (mandatory or voluntary early adoption). The preparers' and auditors' unfamiliarity with the requirements of the new segment reporting standard can be one of the reasons for the relatively low level compliance with the entity-wide requirements of IFRS 8. Crawford et al. (2012a) interviewed preparers, users and auditors of financial statements and found that the interviewees had difficulties understanding the concept of the new entity-wide disclosure requirements. Many of them (even a number of the auditors) linked the entity-wide disclosures required by IFRS 8 to the geographical information required by IAS 14R.

> *"..., there appeared to be a great deal of confusion among the respondents about the new category of entity-wide disclosures which were mandated under IFRS 8. Users, in particular, either did not know what these were or equated them with geographic disclosures which had previously been provided as segment data under IAS 14R. Even a*

> *number of the auditors did not seem to recognise that this category of information included more than geographic disclosures."* (Crawford et al., 2012a, p7)

However, previous research (e.g. Al-Shammari et al., 2008; Hodgdon et al., 2009) proved that compliance improved over time. Thus, the compliance with the entity-wide requirements of the standard may increase as the preparers and auditors become more familiar with the requirement of the new standard.

> *"IFRS 8 does not include an exemption from disclosure on the ground of commercial sensitivity. Although, we are sympathetic to the specific concerns raised, we think that a competitive-harm exemption is inappropriate because it would provide a means for broad non-compliance with the Standard."* (IASB, 2013b, p19)

After the IASB issued ED 8 for public comments (19 January 2006) some respondents argued that competitive harm might be associated with the introduction of the new segment disclosure standard. The respondents to the ED 8 suggested that a competitive harm exemption should be in the standard. However, IASB argued that such a general exemption would provide too much opportunity for non-compliance. Later even the Financial Reporting Review Panel (FRRP) called the companies *"attention to the fact that no exemption is given from any aspect of IFRS 8 on the grounds that disclosure would be commercially prejudicial"*. (FRRP, 2010, p2; Roberts, 2010) Furthermore, Katselas et al. (2011) analysed the comment letters on the ED 8 and found that single segment firms were less likely to support IFRS 8. The authors explained it with the potential release of proprietary information. As part of the PIR of IFRS 8 the IASB carried out a public consultation through a Request for Information (RIF). (see more in Section 2.2) Many respondents expressed concerns about the disclosure of commercially harmful information once again. Thus, it would not be surprising if beside the unfamiliarity with the new standard preparers intentionally kept back potentially harmful proprietary information from competitors.

A more detailed analysis of the compliance scores reveals that the companies withhold some more sensitive entity-wide information. (Table 5.9, Appendix B. 2) Only 48.50% of the sample companies disclosed information about the extent of their reliance on their major customers. Both SFAS 131 and IFRS 8 require disclosures about major customers. However, research found that only a very low % of the companies discloses information about their major customers. (Crawford et al., 2012a; Nichols et al., 2012) (Table 5.3)

Many companies may not have major customers because of the services, products they provide (e.g. companies in consumer services, customer good industries such as transportation, hotel and restaurant services, retailers). However, it is also likely that companies hold back information about their major customers because of the commercially sensitive nature of the information. (Table 5.9)

Although 74.00% of the companies disclosed information about their external revenues attributed to the entity's country of domicile and to all foreign countries only 55.00% of them disclosed information about their non-current assets in the same detail. Additionally, almost a quarter (24%) of the companies omitted to disclose the basis of how they attribute (e.g. based on the location of the customer, the origin, the destination, the service provided etc.) the external revenues to individual countries. This makes it difficult to analyse the provided revenue information and questions its comparability. (Table 5.9)

Table 5.9 Compliance with selected disclosure requirements of IFRS 8 (% of the companies)

Reference		Disclosure					
IFRS 8	Disclosure requirement	YES	NO	NA	NK	Total	NO + NK
8.34	An entity shall provide **information about the extent of its reliance on its major customers**.	48.50	0.00	0.00	51.50	100.00	**51.50**
8.27 (a)	An entity shall disclose the **basis of accounting for any transactions between reportable segments**.	38.00	12.50	22.00	27.50	100.00	**40.00**
8.33 (b)	An entity shall report the following **geographical information** unless the necessary information is not available and the cost to develop it would be excessive (in which case that fact should be disclosed): (b) **Non-current assets** other than financial instruments, deferred tax assets, post-employment benefit assets, and rights arising under insurance contracts (i) located in the entity's country of domicile and (ii) located in all foreign countries in total in which the entity holds assets.	55.00	23.50	8.50	13.00	100.00	**36.50**
8.33 (a)	An entity shall disclose the **basis for attributing revenues** from external customers to individual countries	64.50	24.00	11.50	0.00	100.00	**24.00**
8.33 (a)	An entity shall report the following **geographical information** unless the necessary information is not available and the cost to develop it would be excessive (in which case that fact should be disclosed): (a) **Revenues from external customers** (i) attributed to the entity's country of domicile and (ii) attributed to all foreign countries in total from which the entity derives revenues.	74.00	6.50	7.50	12.00	100.00	**18.50**
8.22 (b)	The entity shall disclose the **types of products and services** from which each reportable segment generates revenues.	86.00	14.00	0.00	0.00	100.00	**14.00**
8.32	An entity shall report the **revenues from external customer for each product and service**, or each group of similar product and services, unless the necessary information is not available and the cost to develop it would be excessive (in which case that fact shall be disclosed).	80.50	13.50	5.50	0.50	100.00	**14.00**

Revenue from external customers should be reported for each (group of) product and services *"unless the necessary information is not available and the cost to develop it*

would be excessive, in which case that fact shall be disclosed" (IFRS 8, 8.32). The companies can use the same excuse when they have difficulties to provide the revenues from external customers attributed to and non-current assets located in the company's country of domicile and all foreign countries. (IFRS 8, 8.33) 14% (NO=13.50%, NK=0.50%) of the companies did not disclose their external revenue by (group of) products and services and 18.50% (NO=6.50%, NK=12.00%) of the companies did not disclose their external revenues attributed to the country of domicile and to all foreign country. However, none of these companies disclosed that the company lacked the necessary information and its cost of production would have been excessive. Furthermore, 36.5% (NO=23.50%, NK=13.00%) of the companies did not disclose their non-current assets located in the country of domicile and in all foreign countries. However, only one company (Carnival) provided an excuse. *"Our ships move between geographic regions and, therefore, it is not meaningful to allocate these ship assets and ship capital expenditures to particular regions."* (Carnival, 2010 Financial Statements, p16) (Table 5.9)

With two exceptions the companies are highly compliant with the reportable segment disclosure requirements of IFRS 8. 40.00% (NO=12.50%, NK=27.50%) of the companies did not mention the basis of accounting for the transactions between their reportable segments and 14.00% (NO=14.00%, NK=0.00%) of the companies did not provide information about the types of revenue generating products and services of the company's reportable segments. (Table 5.9)

> *"In prior years, costs were reported on a geographic basis. Resources are now managed on a global basis and accordingly the Executive Committee does not measure costs or operating profit by segment and therefore the Group no longer reports operating profit by segment."* (Micro Focus International plc., Annual Reports and Accounts 2010, p51 and p57)
>
> *"Operating costs, financial income, financial expenses and income taxes in relation to the Agency, New Homes and the Other segment are managed on a centralised basis at a Righmove Group Limited level and as there are no internal measures of individual segment profitability relevant disclosures have been shown under the heading of Central ..."* (Rightmove plc, Annual Report 2009, p62)

An additional interesting fact is that two companies (Micro Focus International plc, Rightmove plc) claimed that their costs and profit are managed on a corporate level. Therefore, they do not have segment cost and segment profit measures to disclose.

Table 5.10 Compliance indices (and std. deviations) by adoption, ICB industry sector, type of auditor, type of reporting segment, US and cross listing status and FTSE listing

	Company		Compliance score (%) for *(Std. Deviation)*					
			reportable segments		entity wide information		segmental information (total)	
	number	%	CI1_R	CI2_R	CI1_EWI	CI2_EWI	CI1_T	CI2_T
FTSE								
FTSE 100	69	34.50	92.15	92.90	76.86	87.26	87.23	91.13
			(12.59)	*(12.79)*	*(17.97)*	*(16.90)*	*(11.50)*	*(11.17)*
FTSE 250	131	65.50	90.83	93.03	75.57	85.19	86.74	91.36
			(12.51)	*(12.01)*	*(23.54)*	*(21.55)*	*(12.02)*	*(10.65)*
Total	**200**	**100.00**	**91.28**	**92.99**	**76.02**	**85.91**	**86.91**	**91.28**
			(12.52)	***(12.26)***	***(21.75)***	***(20.05)***	***(11.82)***	***(10.80)***
Adoption								
Early adoption	29	14.50	95.82	97.78	74.47	88.87	89.52	95.19
			(6.36)	*(5.63)*	*(17.15)*	*(14.74)*	*(7.15)*	*(6.41)*
Not early adoption	171	85.50	90.51	92.17	76.28	85.41	86.47	90.62
			(13.15)	*(12.89)*	*(22.46)*	*(20.81)*	*(12.40)*	*11.26)*
Total	**200**	**100.00**	**91.28**	**92.99**	**76.02**	**85.91**	**86.91**	**91.28**
			(12.52)	***(12.26)***	***(21.75)***	***(20.05)***	***(11.82)***	***(10.80)***
Industry								
Basic Materials	22	11.00	86.46	87.31	77.50	88.40	83.07	86.95
			(18.03)	*(18.52)*	*(16.55)*	*(13.06)*	*(14.38)*	*(14.07)*
Consumer Services	49	24.50	92.52	94.52	68.43	80.15	85.94	91.19
			(12.24)	*(12.21)*	*(24.19)*	*(25.15)*	*(12.64)*	*(11.97)*
Customer Goods	19	9.50	90.54	92.08	78.69	86.62	87.01	91.15
			(13.47)	*(13.07)*	*(23.93)*	*(24.01)*	*(13.45)*	*(11.87)*
Health Care	6	3.00	91.42	94.44	88.73	92.62	90.25	93.65
			(11.60)	*(10.68)*	*(12.27)*	*(8.69)*	*(11.32)*	*(9.39)*
Industrials	60	30.00	92.08	93.39	80.42	88.37	88.62	91.88
			(11.24)	*(10.75)*	*(17.75)*	*(14.78)*	*(10.71)*	*(9.94)*
Oil & Gas	16	8.00	90.79	92.97	70.59	83.74	84.68	90.95
			(9.35)	*(9.00)*	*(23.62)*	*(19.71)*	*(9.08)*	*(6.57)*
Technology	15	7.50	89.06	92.40	83.62	91.33	87.73	92.43
			(14.11)	*(12.11)*	*(20.92)*	*(17.67)*	*(12.85)*	*(10.27)*
Telecommunication	5	2.50	91.62	94.12	84.57	100.00	89.19	95.24
			(12.16)	*(13.15)*	*(17.68)*	*(0.00)*	*(12.60)*	*(10.65)*
Utilities	8	4.00	97.59	97.59	60.71	74.55	89.30	93.81
			(3.32)	*(3.32)*	*(29.56)*	*(32.16)*	*(4.96)*	*(5.06)*
Total	**200**	**100.00**	**91.28**	**92.99**	**76.02**	**85.91**	**86.91**	**91.28**
			(12.52)	***(12.26)***	***(21.75)***	***(20.05)***	***(11.82)***	***(10.80)***

	Company		Compliance score (%) for *(Std. Deviation)*					
			reportable segments		entity wide information		segmental information (total)	
	number	%	CI1_R	CI2_R	CI1_EWI	CI2_EWI	CI1_T	CI2_T
Type of reporting segment								
Business	119	59.50	91.89	93.26	80.77	91.56	88.69	92.85
			(12.73)	*(12.76)*	*(20.19)*	*(16.77)*	*(11.88)*	*(11.14)*
Geographic	38	19.00	88.58	91.35	65.06	74.54	81.94	87.51
			(11.75)	*(11.13)*	*(23.39)*	*(22.92)*	*(10.59)*	*(9.62)*
Mixed	43	21.50	91.99	93.68	72.54	80.31	86.37	90.27
			(12.57)	*(11.94)*	*(20.66)*	*(20.28)*	*(11.62)*	*(10.09)*
Total	**200**	**100.00**	**91.28**	**92.99**	**76.02**	**85.91**	**86.91**	**91.28**
			(12.52)	***(12.26)***	***(21.75)***	***(20.05)***	***(11.82)***	***(10.80)***
Auditor								
Big4_A	63	31.50	92.42	94.06	71.22	80.28	86.64	91.05
			(11.66)	*(11.38)*	*(25.14)*	*(25.51)*	*(11.53)*	*(10.61)*
Big4_B	53	26.50	86.45	88.85	72.61	83.39	82.49	87.45
			(14.31)	*(14.37)*	*(21.92)*	*(20.77)*	*(13.53)*	*(12.51)*
Big4_C	45	22.50	92.94	94.16	81.54	91.41	89.64	93.52
			(10.43)	*(9.84)*	*(18.45)*	*(12.59)*	*(9.87)*	*(7.93)*
Big4_D	33	16.50	96.25	97.31	83.07	93.25	92.29	96.04
			(5.95)	*(5.33)*	*(15.78)*	*(11.11)*	*(6.52)*	*(5.87)*
BIG4	194	97.00	91.56	93.21	76.01	85.92	87.16	91.49
			(11.88)	*(11.51)*	*(21.86)*	*(20.25)*	*(11.54)*	*(10.36)*
Not BIG4	6	3.00	82.31	85.67	76.19	85.56	78.69	84.57
			(26.37)	*(28.24)*	*(19.52)*	*(12.77)*	*(18.26)*	*(21.09)*
Total	**200**	**100.00**	**91.28**	**92.99**	**76.02**	**85.91**	**86.91**	**91.28**
			(12.52)	***(12.26)***	***(21.75)***	***(20.05)***	***(11.82)***	***(10.80)***
Listing								
Cross listed	182	91.00	91.55	93.24	76.77	86.84	87.26	91.61
			(12.33)	*(12.12)*	*(20.36)*	*(18.27)*	*(11.29)*	*(10.43)*
Not cross listed	18	9.00	88.55	90.45	68.41	76.48	83.42	87.98
			(14.45)	*(13.69)*	*(32.47)*	*(32.35)*	*(16.19)*	*(13.97)*
Total	**200**	**100.00**	**91.28**	**92.99**	**76.02**	**85.91**	**86.91**	**91.28**
			(12.52)	***(12.26)***	***(21.75)***	***(20.05)***	***(11.82)***	***(10.80)***
US listing								
US listed	116	58.00	91.08	92.94	77.08	87.48	86.88	91.45
			(12.18)	*(11.83)*	*(19.78)*	*(17.99)*	*(11.30)*	*(10.47)*
Not US listed	84	42.00	91.56	93.05	74.54	83.74	86.95	91.04
			(13.05)	*(12.89)*	*(24.24)*	*(22.52)*	*(12.57)*	*(11.31)*
Total	**200**	**100.00**	**91.28**	**92.99**	**76.02**	**85.91**	**86.91**	**91.28**
			(12.52)	***(12.26)***	***(21.75)***	***(20.05)***	***(11.82)***	***(10.80)***

Several items only need to be disclosed for each reportable segment if they are regularly provided to the CODM or the items are included in the calculation of segment profit or loss. However, all companies must disclose a measure of profit or loss for each reportable segment. (IFRS 8, 8.23)

The results in this Section indicate that there is a considerable variation between the individual companies' level of compliance. The next Section (Section 5.7.2) tests the hypotheses developed in Section 5.4 and investigates whether the differences in the level of compliance with the requirements of IFRS 8 are associated with different company characteristics.

5.7.2 Determinants of compliance with the segmental reporting disclosure requirements

This Section reports the results of different statistical methods which were used to test the relationship between the level of compliance with the disclosure requirements of IFRS 8 and several company characteristics.

Univariate analysis

Table 5.10 provides the main values of the compliance indices with reference to the different categorical company characteristics. The information suggests that companies in the Health Care, Telecommunication and Utilities (Basic Materials and Oil & Gas) industry, audited by Big4_D and Big4_C (Not Big4 and Big4_B), cross listed and early adopters comply, on average, most (less) with the IFRS 8 disclosure requirements (CI1_T, CI2_T).

Both the normality and the homogeneity of variances assumptions have been violated in many cases. However, it is argued that ANOVA can be robust to violation of its assumptions (Field, 2009; Wilcox, 2012) The results of ANOVAs (and independent t-tests) indicate that the categorical variables FTSE 100 and US listing do not have significant effect on the dependent variables. The industry type only has significant effect on the primary entity-wide compliance index (CI1_EWI). The cross listing only has significant effect on the secondary entity-wide compliance index. (CI2_EWI) While, the adoption categorical variable has significant effect on the compliance indices for

reportable segments (CI1_R, CI2_R) and on the secondary compliance index for the total segmental information (CI2_T). The effect of the type of the reporting segment is significant on the entity-wide and total compliance indices (CI1_EWI, CI2_EWI, CI1_T and CI2_T) but not on the compliance indices for the reportable segments (CI1_R, CI2_R). The results also indicate that the identity of auditor has significant effect on all compliance indices. (Table 5.11)

For all six compliance indices follow-up pair wise comparisons found significant differences between the means of the different auditors[39].

The pair wise comparisons show some significant differences between the means of compliance indices for entity-wide information[40] and for total segment information[41] for companies with different reportable segments (geo, business, mixed).

However, the pair wise comparisons did not find significant differences between the means for the different industry categories.

The non-parametric tests results are in line with the results of ANOVAs (and independent t-tests) and indicate the same association between the dependent and categorical independent variables. There are only two differences. While ANOVA (and independent t-tests) shows that the time of adoption (early adopter or not) has significant effect on both the primary and secondary compliance indices for reportable segment (CI1_R, CI2_R) and on the secondary index for the total segmental information (CI2_T) the non-parametric Mann-Whitney U test does not show significant effect on the primary compliance index for reportable segment (CI1_R). Additionally, based on the results of the non-parametric Mann-Whitney U test the cross listing does not have significant effect on any compliance indices. (Table 5.11)

Product-moment correlation coefficients were calculated to investigate the relationship between the dependent variable(s) and the continuous variables. (Appendix B. 3) The correlation coefficients indicate significant relationship between the compliance indices

[39] CI1_R: Big4_D and Big4_B; CI2_R: Big4_D and Big4_B; CI1_EWI: Big4_D and Big4_A; CI2_EWI: Big4D and Big4_A, Big4_C and Big4_A; .CI1_T: Big4_D and Big4_B, Big4_B and Big4_C; CI2_T: Big4_D and Big4_B, Big4_B and Big4_C

[40] CI1_EWI: geo and business; CI2_EWI: business and geo, business and mixed

[41] CI1_T: geo and business; CI2_T: geo and business

and some continues variables (e.g. CI1_R and gearing, current ratio, growth rate r= -0.199, r= -0.155, r= -0.169; CI2_R and gearing, growth rate, r= -0.181, r= -0.152; CI1_EWI and capital intensity, r= 0.195; CI2_EWI and capital intensity, r= -0.144). Additionally, some of the correlation coefficient indicates that multicollinarity might be a problem (e.g. significant correlation between independent variables: current ratio and gearing, r=0.622; number of subsidiaries in foreign countries and total sales, r=0.496; concentration and capital intensity, r= 0.222) in the regression models.

Table 5.11 Parametric and non-parametric test results for categorical company characteristics

	Significant effect on dependent variable					
Compliance index	**Reportable segment**		**Entity wide information**		**Total**	
Categorical variables / Test	**CI1_R**	**CI2_R**	**CI1_EWI**	**CI2_EWI**	**CI1_T**	**CI2_T**
Identity of the auditor						
parametric test	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**
non-parametric test	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**
Industry type						
parametric test	NO	NO	**YES**	NO	NO	NO
non-parametric test	NO	NO	**YES**	NO	NO	NO
Early adoption						
parametric test	**YES**	**YES**	NO	NO	NO	**YES**
non-parametric test	NO	**YES**	NO	NO	NO	**YES**
Cross listing						
parametric test	NO	NO	NO	**YES**	NO	NO
non-parametric test	NO	NO	NO	NO	NO	NO
US listing						
parametric test	NO	NO	NO	NO	NO	NO
non-parametric test	NO	NO	NO	NO	NO	NO
Type of reportable segment						
parametric test	NO	NO	**YES**	**YES**	**YES**	**YES**
non-parametric test	NO	NO	**YES**	**YES**	**YES**	**YES**
FTSE 100 / 250						
parametric test	NO	NO	NO	NO	NO	NO
non-parametric test	NO	NO	NO	NO	NO	NO

Pearson correlation coefficient and Kendall's tau was calculated on the ranked variables. They show exactly the same correlation between the ranked variables. Both statistics indicate that the rank of primary compliance index for the reportable segments (CI1_R) is significantly correlated with the rank of gearing ratio. This is the only significant correlation between the dependent variables and the independent variables. However, most of the ranked independent variables are significantly correlated with other ranked independent variables. (Appendix B. 4 and Appendix B. 5)

The results of the above mentioned tests can help to (1) test hypotheses (Section 5.4) and (2) optimally specify the variables in the regression model.

Multivariate analysis

The multivariate regression model

Based on the hypotheses (Section 5.4) and the results mentioned earlier in this Section the following regression model has been defined:

(Equation 5.4)

$$Y_j = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 + \beta_9 X_9 + \beta_{10} X_{10} + \beta_{11} X_{11} + \beta_{12} X_{12} + \beta_{13} X_{13} + \beta_{14} X_{14} + \beta_{15} X_{15} + \varepsilon_j = \beta_0 + \sum_{i=1}^{i=15} \beta_i X_i + \varepsilon_j$$

Where

Y_j =	each sample company's compliance index
β_0 =	the constant
β_i =	regression coefficients
X_1=	identity of the auditor _ Big4_A
X_2=	identity of the auditor _ Big4_B
X_3=	identity of the auditor _ Big4_C
X_4=	identity of the auditor _ Not Big4
X_5=	market concentration
X_6=	capital intensity
X_7=	early adoption
X_8=	size
X_9=	gearing
X_{10}=	liquidity
X_{11}=	profitability
X_{12}=	type of reporting segments _ Business
X_{13}=	type of reporting segments _ Mixed
X_{14}=	international visibility
X_{15}=	growth
ε_j =	error term.

Tests carried out on categorical variables (see earlier in this Section) indicate that the identity of the company's auditor has significant effect on the compliance indices. Additionally, the time of adoption (early adoption or not) and the type of the reportable segments have significant effect on most of the compliance indices. Therefore, they were built into the regression model.

Categorical variables that have the same means across categories (US listing, Cross listing, FTSE 100, ICB industry type) have been added to the model (one by one) to test whether their addition can significantly improve the unranked regression model (significant increase in R^2) and to make sure that none of the important categorical variables are left out from the model. Change statistics are presented in Table 5.12. These statistics are the differences made by introducing new independent variables to the model. None of the tested categorical variables improved significantly the regression model(s). Therefore, none of them were added to the independent variables of the regression model.

Table 5.12 Change statistics for US listing, cross listing, adoption and industry type

					Change Statistics				
	R	R Square	Adj R Square	Std. Error of the estimate	R Square change	F change	df1	df2	Sig. F change
CI1_R Compliance index for reportable segments[1]									
Original model	**0.431**	**0.186**	**0.119**	**11.753**	**0.186**	**2.795**	**15**	**184**	**0.001**
Included new independent variable									
US listing (1=US listed, 0 otherwise)	0.431	0.186	0.115	11.781	0.001	0.123	1	183	0.727
Cross listing (1=cross listed, 0 otherwise)	0.439	0.193	0.122	11.733	0.007	1.614	1	183	0.206
FTSE 100 (1=FTSE 100 company, 0 otherwise)	0.431	0.186	0.115	11.783	0.000	0.070	1	183	0.792
Industry (1=Industrials, 0 otherwise)	0.434	0.188	0.117	11.766	0.003	0.571	1	183	0.451
CI2_R Compliance index for reportable segments									
Original model	**0.403**	**0.162**	**0.094**	**11.669**	**0.162**	**2.374**	**15**	**184**	**0.004**
Included new independent variable									
US listing (1=US listed, 0 otherwise)	0.405	0.164	0.091	11.688	0.002	0.407	1	183	0.524
Cross listing (1=cross listed, 0 otherwise)	0.410	0.168	0.096	11.657	0.006	1.375	1	183	0.243
FTSE 100 (1=FTSE 100 company, 0 otherwise)	0.404	0.163	0.090	11.696	0.001	0.158	1	183	0.691
Industry (1=Industrials, 0 otherwise)	0.404	0.163	0.090	11.696	0.001	0.176	1	183	0.676
CI1_EWI Compliance index for entity wide information									
Original model	**0.485**	**0.235**	**0.173**	**19.781**	**0.235**	**3.766**	**15**	**184**	**0.000**
Included new independent variable									
US listing (1=US listed, 0 otherwise)	0.458	0.235	0.169	19.828	0.001	0.127	1	183	0.722
Cross listing (1=cross listed, 0 otherwise)	0.492	0.242	0.176	19.741	0.007	1.743	1	183	0.188
FTSE 100 (1=FTSE 100 company, 0 otherwise)	0.487	0.237	0.171	19.804	0.002	0.577	1	183	0.449
Industry (1=Industrials, 0 otherwise)	0.493	0.243	0.177	19.726	0.008	2.024	1	183	0.156
CI2_EWI Compliance index for entity wide information									
Original model	**0.504**	**0.254**	**0.193**	**18.008**	**0.254**	**4.175**	**15**	**184**	**0.000**
Included new independent variable									
US listing (1=US listed, 0 otherwise)	0.506	0.256	0.191	18.030	0.002	0.551	1	183	0.459
Cross listing (1=cross listed, 0 otherwise)	0.516	0.266	0.202	17.906	0.012	3.106	1	183	0.080
FTSE 100 (1=FTSE 100 company, 0 otherwise)	0.504	0.254	0.189	18.051	0.001	0.127	1	183	0.722
Industry (1=Industrials, 0 otherwise)	0.506	0.256	0.191	18.029	0.002	0.563	1	183	0.454
CI1_T Compliance index for segmental information _ total									
Original model	**0.441**	**0.194**	**0.129**	**11.034**	**0.194**	**2.956**	**15**	**184**	**0.000**
Included new independent variable									
US listing (1=US listed, 0 otherwise)	0.441	0.194	0.124	11.063	0.000	0.029	1	183	0.864
Cross listing (1=cross listed, 0 otherwise)	0.451	0.203	0.133	11.003	0.009	2.052	1	183	0.154
FTSE 100 (1=FTSE 100 company, 0 otherwise)	0.441	0.194	0.124	11.064	0.000	0.003	1	183	0.953
Industry (1=Industrials, 0 otherwise)	0.447	0.200	0.130	11.023	0.006	1.367	1	183	0.244
CI2_T Compliance index for segmental information _ total									
Original model	**0.421**	**0.177**	**0.110**	**10.189**	**0.177**	**2.644**	**15**	**184**	**0.001**
Included new independent variable									
US listing (1=US listed, 0 otherwise)	0.423	0.179	0.107	10.209	0.001	0.281	1	183	0.597
Cross listing (1=cross listed, 0 otherwise)	0.431	0.186	0.115	10.165	0.008	1.894	1	183	0.170
FTSE 100 (1=FTSE 100 company, 0 otherwise)	0.423	0.179	0.107	10.205	0.002	0.430	1	183	0.513
Industry (1=Industrials, 0 otherwise)	0.423	0.179	0.107	10.209	0.001	0.285	1	183	0.594

[1] unranked data

The description of the independent variables is presented in Table 5.13. Descriptive statistics relating to these continuous variables are in Appendix B. 6.

Table 5.13 Description of the independent variables, their measurement and the source of the information

Independent variable		Measurement	Source of information
Identity of the auditor[42]		Dichotomous variables	Annual Report
	X_1	Big4_D_A (1=Big4_A, 0 otherwise)	
	X_2	Big4_D_B (1=Big4_B, 0 otherwise)	
	X_3	Big4_D_C (1=Big4_C, 0 otherwise)	
	X_4	Big4_D_Not Big4 (1=Not Big4, 0 otherwise)	
Market concentration	X_5	HHI (based on sales)	OSIRIS
Capital intensity	X_6	Total PPE to total Assets	Annual Report
Early adoption	X_7	Dichotomous variable (1=early adopter, 0 otherwise)	Annual Report
Size	X_8	Total sales	Annual Report
Gearing	X_9	Shareholder's funds to total liabilities	OSIRIS
Liquidity	X_{10}	Current ratio (Current Assets to Current Liabilities)	OSIRIS
Profitability	X_{11}	ROE (Net income to Shareholder's funds)	OSIRIS
Type of reporting segment		Dichotomous variables	Annual Report
	X_{12}	Business (1=Business, 0 otherwise)	
	X_{13}	Mixed (1=Mixed, 0 otherwise)	
International visibility	X_{14}	Number of subsidiaries in foreign countries	Annual Report
Growth	X_{15}	Growth rate of sales revenue	Annual Report

Checking outliers, multicollinearity and assumptions of the multivariate regression model

The Pearson correlation coefficients indicate that some of the independent variables are significantly correlated (e.g. HHI and capital intensity, HHI and total sales, total sales and number of subsidiaries in foreign countries, operating and current ratio). Thus, correlation coefficients do suggest that there might be problems associated with multicollinearity. (Appendix B. 3) The potential effect of multicollinearity was further assessed by using the VIF (tolerance). Collinearity is considered to be a problem if the VIFs (tolerances) exceed 10 (below 0.1). Additionally, the regression may be biased if the average VIF is substantially greater than 1 or / and there is (are) tolerance(s) below 0.2. (Field, 2009) The maximum (minimum) VIF (tolerance) of the models was 2.184 (0.458). The highest average VIF of the models was 1.543. (Panel D in Appendix B. 7, Appendix B. 8, Appendix B. 9, Appendix B. 10, Appendix B. 11 and Appendix B. 12) Thus, collinearity is not a serious problem in the models.

[42] where Big4_D had the highest level of compliance

Durbin-Watson statistics were very close to 2 for each model. Thus, the residuals in the models are independent (no autocorrelation). (Panel B in Appendix B. 7, Appendix B. 8, Appendix B. 9, Appendix B. 10, Appendix B. 11 and Appendix B. 12)

Univariate outliers (*"case with an extreme value on one variable"*) (Tabachnik and Fidell, 2007, p73) were checked before running the multivariate regression. Several outliers were spotted on the bivariate scatterplots. Data entry was checked and the cases were kept in the sample. Since extreme cases can have too much impact on the multivariate regression multivariate, outliers (*"cases with an unusual combination of scores on two or more variables"*) (Tabachnik and Fidell, 2007, p73) were also checked through the residual statistics. Most of the standardised residuals were within ±2 (±2.5) range where 95% (99%) of the cases should be. However, in the unranked models for same cases the standardised residuals were outside the ±3 range (e.g. W H Smith, Babcock International Group, PZ Cussons). These cases were further investigated. None of the cases had Cooks distance greater than 1. (Panel E in Appendix B. 7, Appendix B. 8, Appendix B. 9, Appendix B. 10, Appendix B. 11 and Appendix B. 12) Thus, there were no influential cases in the multivariate regression models.

The histogram and the normal probability curve of standardised residuals and the normal probability plots were checked to test the normality of residuals. Additionally, skewness, kurtosis was calculated and formal normality tests (Kolmogorov-Smirnov) were carried out. The results indicate that in the unranked models normality assumption was violated. (Panel F – Panel H in Appendix B. 7, Appendix B. 8, Appendix B. 9, Appendix B. 10, Appendix B. 11 and Appendix B. 12) (see more in Section 4.3)

The scatterplots of standardised residuals against the standardised predicted values do not indicate violation of the linearity assumption (the dots do not have e.g. curved shape). However, they indicate the presence of some heterocsedasticity in the unranked model of total and entity-wide compliance scores. None of the partial plots for these models shows severe violation of the assumption of homoscedasticity. (Panel H in Appendix B. 7, Appendix B. 8, Appendix B. 9, Appendix B. 10, Appendix B. 11 and Appendix B. 12)

Cook (1998) argues that *"... given the assumptions of the classical linear regression model, a normally distributed dependent variable implies that the distribution of the errors will also be normal. In most disclosure studies prediction is not the purpose of the*

study, but rather an explanation of the variability of the disclosure scores is sought and so the problem is of limited importance." (p215) Additionally, Field (2009) suggest that *"you can have a perfectly good model for your data (no outliers, influential cases, etc.) and you can use that model to draw conclusion about your sample, even if your assumptions are violated. However, it's much more interesting to generalize your regression model and this is where assumptions become important. If they have been violated then you cannot generalize your findings beyond your sample.*" (p251) Because the sample (FTSE 350) is not representative of the IFRS user companies, it was not the intention of the researcher to generalise from the findings of the study anyway.

Empirical findings

Main outputs for the regression models are reported in Panel A, B and C in Appendix B. 7, Appendix B. 8, Appendix B. 9, Appendix B. 10, Appendix B. 11 and Appendix B. 12 and in Table 5.14. The regression models are significant at the 5% level[43], indicating that the models are well specified. The unranked (ranked) models have greater R^2(adj) and F values both for the total and entity-wide primary (secondary) compliance scores. This result suggests that the unranked (ranked) models predicts better the primary (secondary) compliance score than the ranked (unranked) models as they have more explanatory power. R^2(adj) indicates that the company characteristics in the regression model explain a reasonable part of the variability in the compliance score(s). For example, 12.9% (17.3%) of the variability in the total (entity-wide) primary compliance score can be explained by the selected company characteristics in the unranked models. However, these numbers also indicate that there are other influencing factors not included in the model.[44] (Panel B in Appendix B. 7, Appendix B. 8, Appendix B. 9, Appendix B. 10, Appendix B. 11 and Appendix B. 12)

The level of total compliance is significantly higher for companies organised around different business areas compared to companies organised around geographical areas. However, the level of total compliance is significantly lower for companies being audited by Big4A, Big4B and NotBig4 auditors compared to the compliance of the companies

[43] models for the primary and secondary compliance scores for the entity-wide requirements and for the segmental information (total) are significant at the 1% level

[44] Regression models in compliance studies usually have higher R^2(ajd) values (e.g. Street and Bryant, 2000 → 0.3388, 0.4121; Street and Gray, 2002 → 0.2344 – 0.2849; Glaum and Street, 2003 → 0.296 – 0.306; Hodgdon et al., 2009 → 0.24, 0.25; Tsalavoutas, 2011 → 0.35 – 0.41). However, there are studies with relatively low R^2(ajd) as well (e.g. Prather-Kinsey and Meek, 2004 → 0.09 – 0.14; Camfferman and Cooke, 2002 → 0.193, 0.231).

audited by Big4D. The identity of the auditor and the type of reporting segment significantly affects the company's entity-wide compliance as well. (Appendix B. 7, Appendix B. 8, Appendix B. 9, Appendix B. 10, Appendix B. 11 and Appendix B. 12 and Table 5.14)

In this study market competition is proxied by HHI and capital intensity. The results indicate that there is no significant association between the industry competition measured by the HHI index and the levels of compliance. However, the results suggests that lower levels of capital intensity (lower entry barrier, higher levels of market competition) is associated with higher levels of entity-wide compliance. Thus, companies in more (less) competitive environment reveal (hide) more commercially sensitive information. (Appendix B. 7, Appendix B. 8, Appendix B. 9, Appendix B. 10, Appendix B. 11 and Appendix B. 12 and Table 5.14)

Since the results indicate that the way the company is organised significantly affects the companies' compliance with the entity-wide requirements of IFRS 8, a further analysis was carried out. Table 5.15 shows the companies' compliance with the entity-wide requirements of IFRS 8 by the type of their reporting segments. It is clear from the details that the levels of non-compliance is much higher for companies organised around geographic areas than for companies organised around business areas. (Table 5.15) (see possible explanation in Section 5.4 and 5.7.1)

Robustness Tests

This part of the Section discusses the sensitivity tests conducted to test the robustness of the results.

Although the regression models control for 15 independent variables there is always the question whether omitted variable(s) can be responsible for the findings and can further explain the companies' compliance with IFRS 8. Therefore, additional company characteristics, such as US listing, cross listing, FTSE 100/250, industry type, were added to the original model. None of these additional variables improved the regression model significantly. (Table 5.12[45])

[45] results of the estimations for the unranked models

Table 5.14 Results of the regression models

Compliance index	Significant effect on dependent variable (direction)						Significant effect on dependent variable (direction)						Significant effect on dependent variable (direction)					
	Reportable segment						Entity wide information						Segmental information _ total					
Constant &	CI1_R			CI2_R			CI1_EWI			CI2_EWI			CI1_T			CI2_T		
Independent variables	unranked	ranked	NS[1]	unranked	ranked	NS	unranked	ranked	NS	unranked	ranked	NS	unranked	ranked	NS	unranked	ranked	NS
Constant	YES(+)***	YES(+)***	NO	YES(+)***	YES(+)***	NO	YES(+)***	YES(+)***	NO	YES(+)***	YES(+)***	NO	YES(+)***	YES(+)***	NO	YES(+)***	YES(+)***	NO
Identity of the auditor																		
Big4_D_A	NO	YES (-)*	YES (-)*	NO	NO	NO	YES (-)***	YES (-)**	YES (-)**	YES (-)***	YES (-)***	YES (-)***	YES (-)**	YES (-)**	YES (-)**	YES (-)**	YES (-)**	YES (-)**
Big4_D_B	YES (-)***	YES (-)***	YES (-)***	YES (-)***	YES (-)***	YES (-)***	YES (-)**	YES (-)**	YES (-)**	YES (-)**	YES (-)**	YES (-)**	YES (-)***	YES (-)***	YES (-)***	YES (-)***	YES (-)***	YES (-)***
Big4_D_C	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Big4_D_Not Big4	YES (-)**	YES (-)**	YES (-)**	YES (-)*	NO	NO	YES (-)**	YES (-)*	NO	YES (-)**	YES (-)***	YES (-)**	YES (-)***	YES (-)***	YES (-)***	YES (-)**	YES (-)***	YES (-)***
Market concentration	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Capital intensity	NO	NO	NO	NO	NO	NO	YES (-)***	YES (-)**	YES (-)**	YES (-)**	YES (-)*	YES (-)**	YES (-)*	YES (-)*	NO	NO	YES (-)*	NO
Early adoption	YES (+)**	YES (+)**	YES (+)**	YES (+)**	YES (+)**	YES (+)**	NO	YES (-)*	NO	NO	NO	NO	NO	NO	NO	YES (+)**	YES (+)*	YES (+)**
Size	NO	NO	NO	NO	NO	NO	YES (-)**	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Gearing	NO	YES (-)*	NO	NO	NO	NO	YES (+)**	NO	NO	YES (+)*	NO	NO	NO	NO	NO	NO	NO	NO
Liquidity	NO	NO	NO	NO	NO	NO	YES (-)**	NO	NO	NO	NO	NO	YES (-)*	NO	NO	NO	NO	NO
Profitability	NO	NO	NO	NO	NO	NO	NO	YES (-)**	YES (-)**	NO	NO	YES (-)*	NO	NO	NO	NO	NO	NO
Type of reportable segments																		
Business	NO	NO	NO	NO	NO	NO	YES (+)***	YES (+)***	YES (+)***	YES (+)***	YES (+)***	YES (+)***	YES (+)***	YES (+)***	YES (+)***	YES (+)**	YES (+)***	YES (+)***
Mixed	NO	NO	NO	NO	NO	NO	YES (+)**	NO	NO	YES (+)*	NO	NO	NO	NO	NO	NO	NO	NO
International visibility	YES (-)*	NO	NO	YES (-)*	NO	NO	YES (+)**	NO	NO	YES (+)*	NO	NO	NO	NO	NO	NO	NO	NO
Growth	YES (-)**	NO	NO	YES (-)*	NO	NO	NO	YES (+)**	YES (+)**	YES (+)*	YES (+)*	YES (+)*	NO	NO	NO	NO	NO	NO

[1] normal score

* significant at the 0.10 level (two-tailed)

** significant at the 0.05 level (two-tailed)

*** significant at the 0.01 level (two-tailed)

Table 5.15 Compliance with the entity-wide requirements of IFRS 8 by reportable segment type (% of the companies)

		Reportable segment																	
		BUSINESS						GEO						MIXED					
Ref IFRS 8	Disclosure requirement	YES	NO	NA	NK	Total	NO+NK	YES	NO	NA	NK	Total	NO+NK	YES	NO	NA	NK	Total	NO+NK
8.32	An entity shall report the **revenues from external customer for each product and service**, or each group of similar product and services, unless the necessary information is not available and the cost to develop it would be excessive (in which case that fact shall be disclosed).	91.60	7.60	0.80	0.00	100.00	**7.60**	52.63	21.05	23.72	2.60	100.00	**23.65**	74.42	23.25	2.33	0.00	100.00	**23.25**
8.33 (a)	An entity shall report the following **geographical information** unless the necessary information is not available and the cost to develop it would be excessive (in which case that fact should be disclosed): (a) **Revenues from external customers** (i) attributed to the entity's country of domicile and (ii) attributed to all foreign countries in total from which the entity derives revenues.	73.95	3.36	12.60	10.09	100.00	**13.45**	65.79	10.49	0.00	23.72	100.00	**34.21**	81.39	11.63	6.98	0.00	100.00	**11.63**
8.33 (a)	An entity shall disclose the **basis for attributing revenues** from external customers to individual countries	68.91	15.13	15.96	0.00	100.00	**15.13**	47.37	50.03	2.60	0.00	100.00	**50.03**	67.44	25.58	6.98	0.00	100.00	**25.58**
8.33 (b)	An entity shall report the following **geographical information** unless the necessary information is not available and the cost to develop it would be excessive (in which case that fact should be disclosed): (b) **Non-current assets** other than financial instruments, deferred tax assets, post-employment benefit assets, and rights arising under insurance contracts (i) located in the entity's country of domicile and (ii) located in all foreign countries in total in which the entity holds assets.	58.78	10.92	14.34	15.96	100.00	**26.88**	50.03	39.48	0.00	10.49	100.00	**49.97**	48.84	44.18	6.98	0.00	100.00	**44.18**
8.34	An entity shall provide **information about the extent of its reliance on its major customers**	51.26	0.00	0.00	48.74	100.00	**48.74**	42.11	0.00	0.00	57.89	100.00	**57.89**	46.51	0.00	0.00	53.49	100.00	**53.49**

Alternative proxies could be used both for the dependent and for some of the independent variables. The level of compliance (dependent variable) is measured by two compliance indices (primary and secondary compliance index) as explained in Section 5.6) Instead of using HHI the market concentration could be measured by the four (or eight) – firm concentration ratio. Besides total sales the value of the company's total assets, the company's market capitalisation or the number of employees can also be used as a proxy for the company's size. Net income to sales could be just as good proxy for profitability as ROE. The original proxies were replaced by the alternative proxies one-by-one and the regression models were re-ran.[46]

OLS regression models were calculated with unranked and ranked data (Section 4.3) to test that the results are not method-driven.[47]

Although differences exists between these models in respect of the explanatory power of the models and the significance of some of the independent variables, on the whole, the results reported in Table 5.16 Summary of the results are not especially sensitive (1) to the use of alternative dependent and independent variables and / or (2) to whether these variables are transformed (ranks, normal-scores) or not. (Section 4.3)

In summary, the robustness tests confirmed the key findings summarised in Table 5.16.

5.8 Discussion and conclusion

The extent of compliance with the disclosure requirements of IFRS 8 and the effect of different company characteristics on compliance was examined in Section 5.7. The level of compliance was measured by compliance indices based on a checklist of the disclosure requirements of IFRS 8. (Section 5.6)

This part of the study provides answer to $RQ_{1.1}$ and $RQ_{1.2}$ from the research questions of this thesis. With regard to $RQ_{1.1}$ the findings of the present study suggest that there is

[46] Given the large number of regressions the details of the results are not reported here but they are available on request.

[47] Additionally, because of the bounded dependent variables, Tobit models were also calculated. Their results are consistent with the results of the OLS regression models.

substantial non-compliance with the entity-wide disclosure requirements of IFRS 8 and there is scope for companies to increase their degree of compliance with the segment reporting requirements. However, the companies provided compliance statement in their notes. The auditors assessed the full compliance with IFRSs in their audit reports and all of the sample companies received unqualified audit opinion. The content of the segmental notes is the result of the negotiation between the preparer and its auditor. Whether the non-disclosure of the required information is material or not depends on the auditor judgement. Libby et al. (2006) argue that partners of BIG 4 audit companies require greater correction of misstatements in recognised amounts than in the equivalent amount disclosed in the notes. Thus, partners view recognised amounts to be more material while they tolerate more error in disclosures. Additionally, auditors' materiality judgements are influenced by client importance, client pressure and preference. (e.g. Libby and Kinney, 2000; Acito et al., 2009; Beeler and Hunton, 2002; Nelson et al., 2002) These may affect the audit quality. Furthermore, Crawford et. al. (2012a) recommended that auditors *"should challenge preparers about IFRS 8 disclosures with regard to .... ensuring that segment information is not being withheld on the grounds that it represents commercially sensitive information."* (p 9) Researchers highlighted the importance of enforcement in increasing compliance with IFRSs. (Street and Bryant, 2000; Glaum and Street, 2003; Prather-Kinsey and Meek, 2004; Hodgdon et al., 2009) The findings of this study suggest that enforcement is still seems to be an issue 1) in order to improve disclosures under IFRS 8 and 2) in achieving comparability across entities that adopt the same accounting standards.

The results also indicate that the extent of compliance varies significantly. As far as RQ1.2 is concerned, the present study identified several factors that affect the companies' compliance with the requirements of IFRS 8. Propositions of enforcement, agency, proprietary, political cost and signalling theories can provide the basis for interpreting these findings.

First, the evidences suggest that the identity of the auditor is the most important determinant in explaining the level of compliance with the segmental reporting requirements of IFRS 8. Thus, the audit quality provided by the BIG 4 audit companies seems to be different. Therefore the BIG 4 companies should not be treated as a homogenous group of auditors. (Table 5.14, Table 5.16)

Second, the findings reveal that the overall level of compliance and the level of compliance with the entity-wide requirements of the standard is significantly greater for companies organised around different products and services (business reporting segments) or a combination of different products, services and geographical areas (mixed reporting segments) compared to companies organised around different geographical areas (geographic reporting segments). It raises the question whether the companies use geographic reporting segments to conceal information from their stakeholders including shareholders (agency cost), competitors (proprietary costs), and tax authorities (political costs). Further research on the subject might address this question. (Table 5.14, Table 5.16)

Table 5.16 Summary of the results

Independent variable* **/ Tested hypothesis / Theory**	**Compliance with the**		
	reportable segment	**entity-wide information**	**segmental information (total)**
	requirements of IFRS 8		
Identity of the auditor / H_{a1} *Regulation & Enforcement*	**√**	**√**	**√**
Organisational structure / H_{a9} *Agency, Proprietary and Political cost theory*	X	**√**	**√**
Early adoption / H_{a3} *Signalling theory, Agency theory, Regulation & Enforcement*	**√**	X	X
Capital intensity / H_{a2} *Proprietary theory*	X	**√**	X

*: with significant effect on the dependent variables

Third, the results of this study indicate that companies operating in less competitive environment (higher capital intensity) tend to disclose less commercially sensitive segment information (lower levels of compliance with entity-wide disclosure requirements such as the company's reliance on major customers; non-current assets in and external revenues attributed to the entity's country of domicile and all foreign countries; basis for attributing revenues to individual countries). (5.7.1) These findings are in line with the results of previous research that the competitive harm associated with segment disclosure (proprietary costs) decreases the companies' willingness to disclose more segment information to the market. (Table 5.14, Table 5.16)

Fourth, the level of compliance with the reporting segment requirements is significantly greater for companies that decided to adopt IFRS 8 earlier than its mandatory application date. These findings suggest that the early adopter companies use their annual report to signal to the market, their stakeholders (e.g. their legitimacy, accountability) and distinguish themselves from their competitors. It also can indicate that these companies and their auditors might had been aware of and prepared for the requirements of the new standard (e.g. because of the company's US listing). (Table 5.14, Table 5.16)

Additionally, the relatively high level of non-compliance with the entity-wide requirements of the standard and the considerable variance between the levels of compliance of the individual companies raise concerns about the successfulness of the convergence of the accounting standards (copying the SFAS 131) and the quality and comparability of the financial statements. An analysis and comparison of the level of compliance with the requirements of SFAS 13 / IFRS 8 of a sample of US and EU companies could provide valuable information to the Boards' convergence project.

Previous studies focused on compliance with the requirement of earlier segmental regulations (IAS 14, IAS 14R) used different self-constructed compliance indices based on different check lists, used different measures to proxy company characteristics and their samples referred to different accounting periods.(Section 5.2 and Section 5.4) Therefore, no attempt was made to compare the results with those of previous research.

Chapter 6 Geographic disclosure quality under IFRS 8

6.1 Introduction

Geographic disclosures provide useful information on assessing internationally diversified companies' risks and prospects. Research found evidence that the use of geographic segment disclosures significantly improve forecast accuracy compared to forecasts using consolidated data (Roberts, 1989; Balakrishan et al., 1990; Ahadiat, 1993; Nichols et al, 1995; Herrman, 1996; Herrman and Thomas, 2000; Behn et al., 2002; Kou and Hussain, 2007) and the predicative ability of geographic information increases when more disaggregated information is provided (Ahadiat, 1993; Herrmann, 1996; Behn et al., 2002). Furhermore, geographic segment information disclosed by the companies has incremental value-relevance compared to company-level accounting information. (Thomas, 2000; Bodnar et al., 2003; Aleksanyan and Danbolt, 2005; Olibe and Kinney, 2007; Kajüter and Nienhans, 2014) (see more in Section 2.4.5)

It is not in doubt that users of financial statements welcome and use the geographic information disclosed by the companies when making economic decisions. The question is whether the introduction of the new standard enhanced the quality of the companies' geographic disclosures. Looking for the answer to this question is timely and relevant because of the following reasons:

First, the introduction of SFAS 131 in the US had a number of negative effects on the companies' geographic disclosures including the decrease in the number of firms disclosing earnings by geographic areas, the decrease in the number of items disclosed for each geographic locations and the continued use of broad, vague geographic grouping. Although the new standard increased the number of countries reported individually (increased fineness, decreased aggregation) the information provided for these countries might be less useful for users. (Herrman and Thomas, 2000) (see more in Section 2.4.2)

Second, the potential loss of geographic information as an impact of the new standard was one of the major concerns expressed during the public discussion and the EU endorsement of the proposed new standard. (see more in Section 2.2)

Third, during the PIR of IFRS 8 the IASB received mixed views on the geographic information reported under the new standard. Some investors expressed that they would

welcome the disclosure of a full segment analysis based on geographic areas. Others questioned the usefulness of the disclosed geographic information (identification of reported geographic areas) and the use of entity-wide disclosures (poorly understood and inconsistently applied among the companies). However, in its response the IASB claimed that based on the feedback they received they *"did not identify a clear or consistent problem"* that they *"need to address"*. Additionally, the IASB maintains that geographical disclosures under IFRS 8 do not *"warrant any further action at this time."* (IASB, 2013b, p24)

Fourth, the earlier part of this research found relatively high level of non-compliance with the geographic information related requirements of IFRS 8 (non-disclosure of revenues / NCA for the country of domicile and for all foreign countries; non-disclosure of the basis for attributing revenues from external customers to individual countries). (see more in chapter Chapter 5)

Fifth, prior research on IFRS 8 focused on the connection between the companies operating segment disclosure (e.g. number of segments, number of items per segments) and different company characteristics (e.g. Pardal and Morais, 2011; Pisano and Landriana, 2012) Less is known about the quality of geographic disclosures and their determinants.

This part of the study investigates the companies' geographic disclosures and the effects of different company characteristics on the geographic disclosure under IAS 14R and IFRS 8. Preparers' intentions to reveal / hide geographic information (e.g. proprietary cost, political cost) are linked to the quality of geographic disclosure of the companies.

6.2 Research Objective, Research Questions and Hypothesis development

As it was indicated in the previous section, the objective of this part of the research is (1) to analyse the impacts of IFRS 8 on the sample companies' geographic disclosure and (2) to explain the diversity of the companies' geographic disclosure practice. (RO_2) The study seeks answers to the following research questions:

$RQ_{2.1}$: Did the quality of geographic disclosures improve under IFRS 8?

$RQ_{2.2}$: What company characteristics drive secrecy and support openness?

Research and its findings on the companies' geographic disclosures under SFAS 131 and IFRS 8 is introduced in Section 2.4.2. Prior research indicates that the results are sensitive to the disclosure quality measure employed and warns against the use of a single geographic disclosure quality measure. While the quality of geographic disclosure is shown to be increasing in certain aspects (e.g. increase in the number of locations / countries disclosed; more individual country disclosed; finer geographic information provided) it is also shown to be decreasing in other aspects (e.g. decrease in the number of items disclosed for each geographic area; decrease in the proportion of companies disclosing geographic earning measures). Thus, one cannot examine the effects of IFRS 8 on geographic disclosure quality by simply analysing the change of only one measure.

Therefore, in this study, after the general introduction of the sample companies' geographic disclosure practice geographic disclosure measures such as (1) the number of the disclosed geographic locations / countries / regions; (2) the proportion of revenues reported by country; (3) the proportion of revenues reported by ROW; (4) the fineness of geographic information disclosed; (5) the number of items disclosed for each country, (6) the homogeneity of the geographic disclosures provided by the companies and (7) the disclosure of information about the base used to allocate revenues to individual countries are used to describe the quality of geographic disclosure and capture the impacts of the introduction of IFRS 8 on geographic disclosures.

Company characteristics used to test hypotheses (H_{a1} – H_{a11}) in the compliance chapter (Chapter 5) of the thesis are used in this chapter and in the following two chapters of the thesis as well. (see more in Section 5.4)

Additionally, it can be argued that (1) there is a relationship between the companies' financial reporting behaviour and their tax reporting behaviour and (2) the companies' disclosure quality can be influenced by the preparers' desire to conceal the companies' tax avoidance behaviour. (Hanlon and Heitzman, 2010; Hope et al., 2013) (Section 2.3) Low transparency (disclosure quality) might be associated with the companies' tax avoidance activities. For example, Hope et al. (2013) studied the geographic earnings disclosure practice of US MNCs and found that the companies' decisions on whether to disclose geographic earnings under SFAS 131 were affected by the companies' attempts

to hide their tax avoidance behaviour (proxied by the companies' effective tax rate). Thus, the preparer's desire to conceal the company's tax avoidance can influence the company's disclosure policy, practice. (Political cost theory, Regulation and enforcement)

Based on the findings of previous research it can be assumed that companies might have lower transparency related to their foreign operation (e.g. lower number of individually discloses countries, lower percentage of the revenues disclosed by countries, lower fineness score, lower number of items disclosed by country) to make it more difficult to the financial statement users to detect the companies' tax avoidance behaviour. Therefore, an additional hypothesis has been developed to test the effect of the companies' tax avoiding behaviour on the quality of their geographic disclosures.

> H_{a12}: The company's tax avoiding behaviour is associated with the quality of the company's geographic disclosures.

Hanlon and Heitzman (2010) recently reviewed tax research. They identified corporate tax avoidance as one of the main areas of tax research. The different studies they reviewed used (1) effective tax rate (usually calculated as total income tax expense divided by pre-tax accounting income, p139), (2) long-run effective tax rates (calculated as the sum of cash paid for income taxes over ten years scaled by the sum of pre-tax income over the same period, p141), (3) book-tax differences, (4) discretionary or "abnormal" measures (e.g. abnormal book-tax differences), (5) unrecognised tax benefits (measured as the levels and / or changes in unrecognised tax benefits, the accounting reserve for future tax contingencies, p143) and (6) tax shelter firms as proxies for tax avoidance.

The companies' tax avoiding behaviour in this study is proxied by (1) the companies' effective tax rate (total income tax divided by the pre-tax profit), (2) the number of tax haven countries[48] where the company has subsidiaries and (3) the number of subsidiaries in tax havens.

> *"The tax area is exciting and big contributions can still be made that will advance our understanding of corporate and individual decisions (both reporting and "real"), and perhaps more importantly, inform managerial decisions and tax policy."* (Hanlon and Heitzman, 2010, p169)

[48] http://www.oecd.org/tax/harmfultaxpractices/43606256.pdf [accessed 12 February 2013]

Hanlon and Heitzman (2010) called for further research on the connection between the companies' financial reporting practice and their tax reporting behaviour. This part of the research provides response to this call as well.

6.3 Sample selection and Data collection

Analysis is carried out (1) for the companies that provided geographic information both under IAS 14R and IFRS 8 (N=178) and (2) for the companies that provided geographic information for at least one country, the country of domicile (N=155) under IFRS 8. (Table 6.1) Most of the results are presented for both sample size in the Appendices. The detailed analysis and results provided in this chapter, if not stated otherwise, is based on the smaller sample size.

Table 6.1 Sample selection process[49]

	Number	**%**
FTSE350 (as at 22 June 2011)	350	
Less: ICB Financials (Banks, Insurance, Financial services)	113	
Less: Missing data	15	
Sample size	**222**	**100.00**
Less: No geographic information provided*	44	19.82
Companies providing geographic information	**178**	**80.18**
Less: No domestic/foreign revenue provided**	23	10.36
Geographic information & domestic/foreign revenue available* **	**155**	**69.82**

*: detailed geographic information not provided under IAS 14R; plus Hays, stopped providing geographic revenue information under IFRS 8

**: revenue not provided for the country of domicile under IAS 14R and/or under IFRS 8

***: domestic revenue for 29 companies only available from the restated numbers provided under IFRS 8

Previous studies separately analysed the companies' geographic disclosures provided as geographic reportable segment disclosure or entity-wide disclosure. However, the results of this study indicate that more than a fifth[50] of the geographic revenue disclosing companies provide geographic information both as entity-wide disclosure and as geographic or mixed reportable segment disclosure. Therefore, in this study the geographic information provided by the companies under reportable segment and entity-

[49] see the list of the sample companies in Appendix A. 1

[50] 40/188 = 21.28%; Table 6.2

wide disclosure is combined. In every case the less aggregated information (measured by the fineness score, see in Section 6.4.2) was used.

6.4 Results and Analysis

This section introduces the results of the different statistical methods applied on the data collected for the sample companies. An analysis of the results is also provided.

6.4.1 General introduction of the companies' geographic disclosure practice

The disclosure of geographic revenue information

Under IAS 14 R the companies were required to provide geographic information either as primary or as secondary segment information. Almost a fifth of the companies did not provide detailed geographic revenue information under IAS 14R. With the exception of 3 companies these companies stated in their notes to the Financial Statements that they did not have major activity in or revenue from foreign countries. From the remaining 179 companies 124 provided detailed geographic information under its secondary segments. Only a quarter (55 companies, 24.77%) of the sample had geographic location based primary segments. (Table 6.2)

Those companies who provided geographic information either as primary or as secondary segment information under IAS 14R kept disclosing geographic information under IFRS 8 as well. The only exception is Hays. Hays stopped providing revenue information for its geographic locations. (Appendix C. 9) Under IFRS 8 companies that define operating segments on a basis other than geographic location have to provide geographic disclosures (revenues and NCAs) as part of their entity-wide disclosures. From the 188 companies that provided detailed geographic information under IFRS 8 108 disclosed it as entity-wide information. An additional 40 companies disclosed geographic information both under entity-wide information and under reporting segments (double reporting practice). Most of these companies (36) used different geographic locations for their entity-wide information and for their reporting segments. However, 4 of the companies provided exactly the same geographic structure under their entity-wide information and under their reporting segments. Most of the (91/108 and 22/40) companies that provided geographic information as entity-wide information under IFRS

8 had geographic secondary segments under IAS 14R. The number of non-disclosing companies decreased under IFRS 8 from 43 to 34. 10 of the non-disclosing companies did not mention why geographic information was not provided. It is likely that most of them did not have any revenue or did not have material revenue outside the country of domicile. For example, under IAS 14R 7 of these non-disclosing companies mentioned that all of their revenues generated in the UK (4 companies) or they do not have major revenues from foreign countries (3 companies). However, under IFRS 8 these companies did not comment on the origin of their revenues. (Table 6.2)

Table 6.2 The geographic revenue reporting practice of the companies under IAS 14R and IFRS8[51]

IFRS 8 \ IAS 14R	Geo primary segments	Geo secondary segments	**Detailed geo information provided**	All revenue generated in one country	No major rervenue from foreign countries	No major activity in foreign countries	Geo information not provided	**Detailed geo information not provided**	**Total**
	Number of companies								
Entity wide information	7	91	**98**	3	6	9	1	**10**	**108**
Geo reporting segments	20	3	**23**	0	0	0	0	**0**	**23**
Mixed reporting segments	9	8	**17**	0	0	0	0	**0**	**17**
Both entity wide and reporting segments information provided	18	22	**40**	0	0	0	0	**0**	**40**
in same structure	1	3	**4**	0	0	0	0	**0**	**4**
in different structure	17	19	**36**	0	0	0	0	**0**	**36**
Detailed geo information provided	**54**	**124**	**178**	**3**	**6**	**9**	**1**	**10**	**188**
All revenue generated in one country	0	0	**0**	14	0	14	0	**14**	**14**
No major revenue from foreign countries	0	0	**0**	2	8	10	0	**10**	**10**
No major activity in foreign countries	0	0	**0**	16	8	24	0	**24**	**24**
Geo information not provided	1*	0	**1**	4**	3	7	2	**9**	**10**
Detailed geo information not provided	**1**	**0**	**1**	**20**	**11**	**31**	**2**	**33**	**34**
Total	**55**	**124**	**179**	**23**	**17**	**40**	**3**	**43**	**222**
	% of companies								
Entity wide information	3.15	40.99	**44.14**	1.35	2.70	4.05	0.45	**4.50**	**48.65**
Geo reporting segments	9.01	1.35	**10.36**	0.00	0.00	0.00	0.00	**0.00**	**10.36**
Mixed reporting segments	4.05	3.60	**7.66**	0.00	0.00	0.00	0.00	**0.00**	**7.66**
Both entity wide and reporting segments information provided	8.11	9.91	**18.02**	0.00	0.00	0.00	0.00	**0.00**	**18.02**
in same structure	0.45	1.35	**1.80**	0.00	0.00	0.00	0.00	**0.00**	**1.80**
in different structure	7.66	8.56	**16.22**	0.00	0.00	0.00	0.00	**0.00**	**16.22**
Detailed geo information provided	**24.32**	**55.86**	**80.18**	**1.35**	**2.70**	**4.05**	**0.45**	**4.50**	**84.68**
All revenue generated in one country	0.00	0.00	**0.00**	6.31	0.00	6.31	0.00	**6.31**	**6.31**
No major revenue from foreign countries	0.00	0.00	**0.00**	0.90	3.60	4.50	0.00	**4.50**	**4.50**
No major activity in foreign countries	0.00	0.00	**0.00**	7.21	3.60	10.81	0.00	**10.81**	**10.81**
Geo information not provided	0.45	0.00	**0.45**	1.80	1.35	3.15	0.90	**4.05**	**4.50**
Detailed geo information not provided	**0.45**	**0.00**	**0.45**	**9.01**	**4.95**	**13.96**	**0.90**	**14.86**	**15.32**
Total	**24.77**	**55.86**	**80.63**	**10.36**	**7.66**	**18.02**	**1.35**	**19.37**	**100.00**

*: Hays

**: Wm Morrison Supermarkets, Booker Group, Drax Group, W H Smith

[51] see additional details in Appendix C. 1 and Appendix C. 2

Different company characteristics might affect the way companies disclose their geographic revenue information. For example, 90% of the non-single segment companies disclosed detailed revenue information whereas only less than a third of the single segment companies did the same. Single segment companies either do not want to reveal geographic information or they not only have one business segment but also generate (majority of) their revenues in (from) one geographic location. Companies in the Health Care (100.00%), Oil and Gas (100.00%), Technology (100.00%) and Basic Materials (91.67%) industries were more likely provide detailed geographic information than companies in the Utilities (66.67%), Customer Goods (75.00%) and Consumer Services (71.19%) industries. (Appendix C. 2) These results are not surprising because the way the companies provide geographic information probably is linked to the internationality of the companies. Many of the companies in the Utilities and Consumer Services industries simply do not have any or do not have material revenue generating activity outside the country of domicile. Whereas, companies in industries like Health Care, Oil and Gas, Technology and Basic Materials are more likely generate greater percentage (most) of their revenues from / in abroad.[52] (Appendix C. 3)

Both the frequencies and percentages in Table 6.2 and the results of Pearson's Chi-square tests (Appendix C. 4, Panel A: $\chi^2_{(28)} = 354.98$, $p < 0.000$; Panel B: $\chi^2_{(1)} = 155.161$, $p < 0.000$)) indicate that the way companies reported their geographic revenues under IFRS 8 is influenced by the way the companies reported geographic information under IAS 14R. For example, 92.86% of the companies that had geographic secondary segments under IAS 14R reported geographic information as entity-wide disclosure under IFRS8[53]. Cramer's Vs show strong association between the companies' geographic reporting practice under the old and the new standard. (Appendix C. 4, Panel A: $C = 0.632$, $p < 0.000$; Panel B: $C= 0.836$, $p_{IFRS\ 8} < 0.000$)

The results indicate that both under IAS 14R and IFRS 8 categorical variables 1) industry type ($\chi^2_{(8)IAS\ 14R} = 32.697$, $p_{IAS\ 14R} < 0.000$; $\chi^2_{(8)IFRS\ 8} = 22.881$, $p_{IFRS\ 8} < 0.004$), 2) whether the company is an FTSE 100 index constituent or not ($\chi^2_{(1)IAS\ 14R} = 6.662$, $p_{IAS\ 14R} < 0.010$; $\chi^2_{(1)IFRS\ 8} = 8.113$, $p_{IFRS\ 8} < 0.004$), 3) whether the company is a single segment company

[52] For a smaller sample (N=155, where companies provided foreign revenue information) the results of ANOVA test indicate that there is significant difference between the means of foreign revenue percentages in different industries. Average (standard deviation) foreign revenue percentages are lower (higher) in Utilities and Consumer Services industries and higher (lower) in Health Care, Oil and Gas, Technology and Basic Materials industries. (Appendix C. 3)

[53] 91/98 → 92.86% (Table 6.2)

or not ($\chi^2_{(1)IAS\ 14R} = 52.538$, $p_{IAS\ 14R} < 0.000$; $\chi^2_{(1)IFRS\ 8} = 52.623$, $p_{IFRS\ 8} < 0.000$) and 4) whether the company is US listed or not ($\chi^2_{(1)IAS\ 14R} = 6.804$, $p_{IAS\ 14R} < 0.009$; $\chi^2_{(1)IFRS\ 8} = 5.903$, $p_{IFRS\ 8} < 0.015$) significantly influence whether the company discloses detailed geographic revenue information or not. (Appendix C. 4 Panel B) For the categorical variables industry type ($C_{IAS\ 14R} = 0.384$, $p_{IAS\ 14R} < 0.000$; $C_{IFRS\ 8} = 0.321$, $p_{IFRS\ 8} < 0.004$), FTSE 100/250 ($C_{IAS\ 14R} = 0.173$, $p_{IAS\ 14R} < 0.010$; $C_{IFRS\ 8} = 0.191$, $p_{IFRS\ 8} < 0.004$) and US listing ($C_{IAS\ 14R} = 0.175$, $p_{IAS\ 14R} < 0.009$; $C_{IFRS\ 8} = 0.163$, $p_{IFRS\ 8} < 0.015$), Cramer's statistics indicate association between the categorical variables. However, the results indicate even stronger association between the way the companies reported their geographic revenues and whether the company was a single segment company or not ($C_{IAS\ 14R} = 0.486$, $p_{IAS\ 14R} < 0.000$; $C_{IFRS\ 8} = 0.487$, $p_{IFRS\ 8} < 0.000$). (Appendix C. 4 Panel B) [54]

Further analysis reveals that the companies that provided detailed geographic information are the ones that, on average, have greater total sales (bigger companies), growth rate (in total sales) and international visibility (measured by the number of foreign countries where the company has subsidiary, by the number of subsidiaries in foreign countries and by the number of foreign stock exchanges where the company is listed). Thus, the results indicate that big multinational companies more likely provide detailed geographic information. On the other hand, the non-disclosing companies, on average, have greater capital intensity (PPE/total assets), higher liquidity and gearing ratios. (Appendix C. 6 and Appendix C. 7)

The disclosure of geographic NCA information

While 188 (188/222 → 84.68%) of the sample companies disclosed more or less detailed geographic revenue information under IFRS 8 only 125 (125/222 → 56.31%) of the sample companies disclosed geographic NCA information. It means, that only 66.49% (125/188 → 66.49%) of the revenue disclosing companies disclosed NCA as well. (Table 6.6 and Appendix C. 5)

[54] When using more detailed categories (Appendix C. 4 Panel A)for the companies' geographic revenue disclosures the results indicate that both under IAS 14R and IFRS 8 industry type ($\chi^2_{(32)IAS\ 14R} = 67.073$, $p_{IAS\ 14R} < 0.000$; $\chi^2_{(56)IFRS\ 8} = 95.939$, $p_{IFRS\ 8} < 0.001$) , FTSE 100/250 ($\chi^2_{(4)IAS\ 14R} = 12.619$, $p_{IAS\ 14R} < 0.013$; $\chi^2_{(7)IFRS\ 8} = 15.286$, $p_{IFRS\ 8} < 0.033$) and single segment or not ($\chi^2_{(4)IAS\ 14R} = 69.757$, $p_{IAS\ 14R} < 0.000$; $\chi^2_{(7)IFRS\ 8} = 67.869$, $p_{IFRS\ 8} < 0.000$) categorical variables have significant influence on the way the companies report their revenues. The identity of the auditor ($\chi^2_{(16)IAS\ 14R} = 62.521$, $p_{IAS\ 14R} < 0.000$) and the US listing status of the company ($\chi^2_{(4)IAS\ 14R} = 9.662$, $p_{IAS\ 14R} < 0.047$) also had significant influence on the companies' geographic revenue reporting under IAS 14R but not under IFRS 8. (Appendix C. 4 Panel A)

Table 6.3 The disclosure of geographic NCA information by geographic revenue disclosing companies

N=188	NCA disclosed	NCA not disclosed			Not applicable	Total
		Segment Asset provided	No Asset info provided	Sub total		
Geographic revenue information provided as						
Entity wide information	83	10	13	23	2	108
Geographic reporting segments	7	14	2	16	0	23
Mixed reporting segments	4	11	2	13	0	17
Both entity wide information and reporting segments	31	9	0	9	0	40
in same structure	3	1	0	1	0	4
in different structure	28	8	0	8	0	36
Detailed geographic information provided	**125**	**44**	**17**	**61**	**2**	**188**

Two of the geographic revenue providing companies (easy/Jet plc and Carnival) indicated that they cannot disclose meaningful NCA information for the different geographic locations where / from they earn revenues. (Table 6.3)

> *"easyJet's non-current assets principally comprise its fleet of aircraft (including 62 held under operating leases). All of these aircraft are registered in the United Kingdom except for 15 registered in Switzerland. These assets are used flexibly across the entire route network, and accordingly there is no suitable basis for allocating them to geographic segments."* (easy-Jet plc Annual Report and accounts 2010, p88)
>
> *"Substantially all of our cruise assets are ships and our cruise capital expenditures are incurred for ships and ships under construction. Our ships move between geographic regions and, therefore, it is not meaningful to allocate these ship assets and ship capital expenditures to particular regions."* (Carnival Annual Report 2010, p16)

A further 44 (44/188 → 23.40%) of the 188 companies disclosed "segment asset" by geographic locations. These companies might have forgotten to change their reporting practice under IFRS 8 and kept disclosing *"the total carrying amount of segment assets by geographic location of assets"*. (IAS 14R 69(b) and 70(b)) However, almost 10% (17/188 → 9.04%) of the geographic revenue disclosing companies and 43.69% (100 – 125/222 → 43.69%) of the sample companies did not report any kind of asset information by geographic locations. (Table 6.6 and Table 6.3)

The disclosure of external revenue and NCA information by geographic location

85 companies provided their geographic revenue and NCA information in the same structure by using the same geographic locations. Whereas, almost a third of the companies (40/125 → 32.00%) provided either more detailed revenue information (e.g. Table 6.5) or more detailed NCA information (e.g. Table 6.4 and Table 6.6). Although,

8 of these companies did not disclose their basis for attributing revenues to geographic locations most of the remaining companies (71.88%) used customer location as a basis for attributing revenues from external customers to geographic locations. However, the NCAs of the companies should be attributed to different geographic locations based on the location of assets[55]. The different distribution basis could be the reason why the companies disclose different geographic locations when providing revenue and NCA information. This finding indicates, that users of the financial statements have to be careful when they calculate, analyse and compare financial ratios (e.g. non-current asset usage = revenue / non-current assets * 100%) for different geographic locations.

Table 6.4 Examples of the use of different geographic locations for reporting revenue and NCA information _ more detailed NCA information provided

Panel A

Geographic information

Revenues from external customers

The analysis below is based on the location where the sale originated.

	2010 £m	2009 £m
United Kingdom	899.9	815.5
Other	238.7	163.3
Total revenue	**1,138.6**	**978.8**

Non-current assets

	2010 £m	2009 £m
United Kingdom	260.1	284.2
Republic of Ireland	131.5	237.4
France	200.8	–
Total	**592.4**	**521.6**

Non-current assets for this purpose consist of property, plant and equipment, intangible assets and other receivables.

Britvic Annual Report 2010, p64

Panel B

2. Segment analysis continued

Revenue of £45.1m (2008: £44.2m) is derived from a single external customer. This is attributable to the Coated & Security Products and Filter Products operating segments. Revenue in the UK is £44.9m (2008: £43.2m) with revenue in the US of £96.0m (2008: £105.1m) being the Group's other significant geographical market. Non-current assets in the UK total £48.9m (2008: £59.0m) with other significant locations being the US and The Netherlands with non-current assets of £91.1m and £39.7m (2008: £156.5m and £46.2m) respectively.

Filtrona Annual Report 2009, p85

Revenue and NCA information disclosure for the country of domicile

IFRS 8 requires the disclosure of *"revenues from external customers (i) attributed to the entity's country of domicile"* (IFRS 8 33(a)) and *"non-current assets ... (i) located in the entity's country of domicile"* (IFRS 8 33(b)). However, only 86.70% (163/188 →

[55] *"located in ... countries ... in which the entity holds assets"*, IFRS 8.33(b)

86.70%) of the geographic revenue disclosing companies and 73.42% (163/222 → 73.42%) of the sample companies disclosed the domestic revenue of the company.

Table 6.5 Examples of the use of different geographic locations for reporting revenue and NCA information _ more detailed revenue information provided

Panel A

Revenue by location of customer

	2009 US$m	2008 US$m
Europe		
– United Kingdom	**148.1**	3.7
– Switzerland	**348.1**	373.9
– Rest of Europe	**377.5**	603.0
Latin America		
– Chile	**278.2**	419.6
– Rest of Latin America	**166.1**	250.6
North America		
– United States	**151.8**	382.3
– Rest of North America	**11.7**	16.5
Asia		
– Japan	**784.9**	707.5
– China	**392.8**	353.5
– Rest of Asia	**303.4**	262.0
	2,962.6	3,372.6

Non-current assets by location of assets

	2009 US$m	2008 US$m
Chile	**5,159.7**	3,774.2
Bolivia	**33.7**	34.9
Pakistan	**141.3**	137.8
Other	**11.0**	6.2
	5,345.7	3,953.1

Non-current assets balance disclosed by location of asset and excludes financial instruments and deferred tax assets.

Antofagasta Annual Report and Financial Statements 2009, pp76-77

Panel B

Geographical segments

The Group's revenue by destination is shown below:

	2009 £m	2008 £m
United Kingdom	**1,458**	1,462
Rest of Europe	**2,273**	1,890
USA	**2,895**	2,214
Canada	**275**	299
Asia	**2,856**	2,439
Africa	**144**	143
Australasia	**230**	255
Other	**283**	380
	10,414	9,082

The carrying amounts of the Group's non-current assets, excluding financial instruments, deferred tax assets and post-employment benefit surpluses, by the geographical area in which the assets are located, are as follows:

	2009 £m	2008 £m
United Kingdom	**2,764**	2,586
North America	**467**	463
Nordic countries	**824**	745
Germany	**574**	539
Other	**289**	293
	4,918	4,626

Rolls-Royce Group Annual Report 2009, p107

From the 125 companies that disclosed NCA by geographic locations 112 (112/125 → 89.60%) disclosed NCA information for the company's country of domicile as well.

However, these 112 companies are only the half (112/222 → 50.45%) of the total number of the sample companies. Thus, another half (49.55%) of the sample companies did not disclose NCA information for the country of domicile. (Table 6.6 and Table 6.7)

Table 6.6 Disclosure of NCA information for geographic areas under IFRS8

N=188	Number of companies providing		% of NCA providers	Revenue and NCA provided in			
				same	different sturcture more detailed		
Geographic revenue information provided as	revenue	NCA	revenue providers = 100%	structure	revenue	NCA	Total
Entity wide information	108	83	76.85	55	25	3	28
Geographic reporting segments	23	7	30.43	6	0	1	1
Mixed reporting segments	17	4	23.53	4	0	0	0
Both entity wide information and reporting segments	40	31	77.50	20	6	5	11
in same structure	4	3	75.00	3	0	0	0
in different structure	36	28	77.78	17	6	5	11
Detailed geographic information provided	**188**	**125**	**66.49**	**85**	**31**	**9**	**40**

It is somehow surprising that only 60.87% (71.43%) of the companies organised around geographic areas disclosed external revenue (NCA) information for their country of domicile. Whereas, these percentages are much higher for companies organised around business areas or mix of business and geographic areas. Companies with geographic reporting segments either intentionally hold back information or simply forgot to disclose the external revenue and NCA information for the country of domicile and comply with the new requirements of IFRS 8. (Table 6.7)

Table 6.7 The disclosure of revenue and NCA information for the country of domicile

N=188	Revenue provided for country of domicile		NCA provided for the country of domicile		% of NCA providers
Geographic revenue information provided as	no of companies	% of companies 188 = 100%	no of companies	% of companies 125 = 100%	revenue providers = 100%
Entity wide information	96	88.89	73	87.95	76.04
Geographic reporting segments	14	60.87	5	71.43	35.71
Mixed reporting segments	13	76.47	4	100.00	30.77
Both entity wide information and reporting segments	40	100.00	30	96.77	75.00
in same structure	4	100.00	3	100.00	75.00
in different structure	36	100.00	27	96.43	75.00
Detailed geographic information provided	**163**	**86.70**	**112**	**89.60**	**68.71**

Disclosure of geographic locations, regions and countries

In this study geographic region is defined as any grouping of individual countries such as sub-continent, continent, multi-continent, emerging markets, foreign, ROW etc.. Geographic regions and individual countries together are called as geographic locations.

The following analysis based on the companies geographic revenue disclosures. In the case of double reporting the more detailed (less aggregated) information was used.

The number of disclosed locations and countries under IAS 14R and IFRS 8

The number of companies providing geographic information increased from 179 to 188 under IFRS 8. 43 companies did not disclose any geographic information under IAS 14R. From these 43 companies 10 started to provide geographic disclosure under IFRS 8. (Table 6.2) Only one company, Hays, stopped disclosing geographic revenue information under IFRS 8 (although other items were disclosed for different geographic locations by the company). (Appendix C. 9) The number of geographic locations disclosed by the companies ranged from 2 to 15. Most of the companies disclosed 4 geographic locations (IAS 14R: 55 companies; IFRS 8: 50 companies). More than 70% (80%)[56] of the companies disclosed 5 or less geographic locations under IFRS 8 (IAS 14R). The greatest number of geographic location (15) was disclosed by AstraZeneca (both under IAS 14R and IFRS 8) and Anglo American (under IFRS 8). Most of the geographic locations disclosed by these two companies were individual countries. (Table 6.8)

Table 6.8 The number of reported geographic locations and countries under IAS 14R and IFRS 8

Number of locations, countries	Geographic locations						Countries					
	IAS 14R		IFRS 8		Change		IAS 14R		IFRS 8		Change	
	number	%	number	%	number	%	number	%	number	%	number	%
0	**43**	**19.37**	**34**	**15.32**	**-9**	**-4.05**	**83**	**37.39**	**46**	**20.72**	**-37**	**-16.67**
1	0	0.00	0	0.00	0	0.00	85	38.29	60	27.03	-25	-11.26
2	30	13.51	30	13.51	0	0.00	27	12.16	48	21.62	21	9.46
3	41	18.47	33	14.86	-8	-3.60	13	5.86	26	11.71	13	5.86
4	55	24.77	50	22.52	-5	-2.25	5	2.25	20	9.01	15	6.76
5	26	11.71	22	9.91	-4	-1.80	2	0.90	7	3.15	5	2.25
6	10	4.50	12	5.41	2	0.90	4	1.80	4	1.80	0	0.00
7	7	3.15	13	5.86	6	2.70	0	0.00	2	0.90	2	0.90
8	4	1.80	10	4.50	6	2.70	0	0.00	3	1.35	3	1.35
9	3	1.35	5	2.25	2	0.90	2	0.90	1	0.45	-1	-0.45
10	2	0.90	7	3.15	5	2.25	0	0.00	1	0.45	1	0.45
11	0	0.00	2	0.90	2	0.90	0	0.00	3	1.35	3	1.35
12	0	0.00	2	0.90	2	0.90	1	0.45	1	0.45	0	0.00
13	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
14	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
15	1	0.45	2	0.90	1	0.45	0	0.00	0	0.00	0	0.00
1 - 15	**179**	**80.63**	**188**	**84.68**	**9**	**4.05**	**139**	**62.61**	**176**	**79.28**	**37**	**16.67**
Total	**222**	**100.00**	**222**	**100.00**	**0**	**0.00**	**222**	**100.00**	**222**	**100.00**	**0**	**0.00**

based on geographic revenue disclosure

82 (36.94%) of the companies increased the number of their disclosed geographic locations. Most of them added 1 or 2 additional locations to their previous practice. Only

[56] IFRS 8: 135/188 = 71.81%, IAS 14R: 152/179 = 84.92%

8 of the companies added 5 or more new geographic locations to their earlier practice. For example, Anglo American reported sub-continents, continents and multi-continents under IAS 14R. Under IFRS 8 the company still used these broader geographic regions but attributed most of its revenues to 9 individual countries. Not all of the companies increased the number of geographic locations under IFRS 8. 21 companies decreased the number of their disclosed geographic locations. More than half of these companies decreased the number of their disclosed geographic locations by only 1. But for example Aggreko decreased the number of disclosed geographic locations from 8 (UK, Continental Europe, North America, Middle East, Australia, Africa, South America, Other) to 4 (Middle East and South East Europe, Europe, North America, Other). However, more than 50% of the companies (119 companies) did not change the number of their disclosed geographic locations. Even more interestingly, 105 (105/119 = 88.24%) of these 119 companies used exactly the same geographic locations under IAS 14R and IFRS 8. Thus, almost half of the sample companies (105/222 = 47.30%) did not change their disclosure practice under the new segmental reporting standard. (Table 6.9, Panel A in Appendix C. 8)

IFRS 8 appears to achieve that a significant number of companies started to disclose revenues at the individual country level. 83, almost two fifths of the companies did not disclose country level information under IAS 14R. 40 companies started to disclose country level information under IFRS 8. (Appendix C. 8 Panel B) As a result, under IFRS 8 four fifths (176) of the companies provided geographic information for at least one individual country. The percentage of the companies providing country level information for only one individual country decreased (38.29% → 27.03%). However, the percentage of the companies providing country level information for 2-5 individual countries increased (21.17% → 45.49%). AstraZeneca disclosed the greatest number of individual countries (12) both under IAS 14R and IFRS 8. (Table 6.8, Panel B in Appendix C. 8)

More than 40% of the companies increased the number of reported individual countries. For about a third of these companies (32/90 = 35.56%) the increase was 2. Some great individual change also can be noted. For example Petrofac increased the number of its individually disclosed countries from zero to 7. 8 of the sample companies decreased the number of their disclosed countries. 3 companies (Aggreko, Genus, Hays) that disclosed at least one individual country under IAS 14R stopped doing so under IFRS 8. (Appendix C. 8 Panel B and Table 6.9) However, 55.86% (124 companies) did not change the

number of reported individual countries. Almost all of these companies (119/124 = 95.97%) disclosed exactly the same individual countries under both IAS 14 and IFRS 8. (Table 6.9)

Table 6.9 Change in disclosed geographic locations and countries

Change in disclosed	Locations		Countries	
locations & countries	Number of companies	% of companies	Number of companies	% of companies
Decrease	**21**	**9.46**	**8**	**3.60**
-4	1	0.45	0	0.00
-3	3	1.35	0	0.00
-2	6	2.70	5	2.25
-1	11	4.95	3	1.35
No change	**119**	**53.60**	**124**	**55.86**
same areas / countries	105	47.30	119	53.60
different areas / countries	14	6.31	5	2.25
Increase	**82**	**36.94**	**90**	**40.54**
+1	30	13.51	27	12.16
+2	24	10.81	32	14.41
+3	9	4.05	13	5.86
+4	11	4.95	11	4.95
+5	3	1.35	1	0.45
+6	1	0.45	0	0.00
+7	2	0.90	3	1.35
+8	0	0.00	1	0.45
+9	1	0.45	2	0.90
+10	1	0.45	0	0.00
Total	**222**	**100.00**	**222**	**100.00**

based on geographic revenue disclosure

Individual countries and geographic regions under IAS 14R and IFRS 8

Table 6.10 and Table 6.11 list the individual countries and group of countries (geographic regions) which were most commonly disclosed by the sample companies. It is not surprising, that the number of individual country disclosures is higher (262 → 475), while the number of geographic region disclosures is lower (474 → 428) under IFRS 8.

Under IAS 14R 44 and under IFRS 8 66 different countries were individually reported. Central African Republic was not reported separately any more under IFRS 8 but the companies started to disclose information for 23 new countries (e.g. South Korea, Taiwan, Czech Republic, Serbia, Venezuela, United Arab Emirates etc.) 53.03% (45.45%)[57] of the individually disclosed countries was reported by more than one company under IFRS 8 (IAS 14R). However, only 22.73% (25.00%)[58] of the countries was reported at least by 5 of the sample companies. (Table 6.10)

[57] IFRS 8: (66-30-1)/66; IAS 14R: (44-15-9)/44)
[58] IFRS 8: 15/66; IAS 14R: 11/44

Most of the sample companies are domiciled in the UK. As expected, both under IAS 14R and IFRS 8 the UK was the most commonly disclosed individual country. Under IFRS 8 (IAS 14R) 160 (116) of the sample companies disclosed information for the UK. The top three countries following the UK were the US, Germany and France. These countries are the top countries in terms of the UK's foreign trade (exports and imports) as well. (Office for National Statistics, 2010, pp140-141., Table 6.10)

Table 6.10 Individual countries disclosed under IAS 14R and IFRS 8 (N=222)

Country	IAS14R			IFRS8			Change	
	companies							in %
	Number	%, N=222	%, N=139	Number	%, N=222	%, N=176	in number	IAS14=100%
UK	116	52.25	83.45	160	72.07	90.91	44	137.93
US	29	13.06	20.86	70	31.53	39.77	41	241.38
Germany	13	5.86	9.35	26	11.71	14.77	13	200.00
France	11	4.95	7.91	21	9.46	11.93	10	190.91
Australia	14	6.31	10.07	19	8.56	10.80	5	135.71
China	7	3.15	5.04	17	7.66	9.66	10	242.86
Canada	5	2.25	3.60	17	7.66	9.66	12	340.00
Japan	5	2.25	3.60	13	5.86	7.39	8	260.00
Republic of Ireland	1	0.45	0.72	11	4.95	6.25	10	1100.00
Netherlands	3	1.35	2.16	9	4.05	5.11	6	300.00
Spain	5	2.25	3.60	8	3.60	4.55	3	160.00
Brazil	1	0.45	0.72	6	2.70	3.41	5	600.00
Russia	6	2.70	4.32	5	2.25	2.84	-1	83.33
South Africa	5	2.25	3.60	5	2.25	2.84	0	100.00
Italy	3	1.35	2.16	5	2.25	2.84	2	166.67
Belgium	3	1.35	2.16	4	1.80	2.27	1	133.33
India	2	0.90	1.44	4	1.80	2.27	2	200.00
South Korea	0	0.00	0.00	4	1.80	2.27	4	
Switzerland	3	1.35	2.16	3	1.35	1.70	0	100.00
Chile	2	0.90	1.44	3	1.35	1.70	1	150.00
Indonesia	2	0.90	1.44	3	1.35	1.70	1	150.00
Taiwan	0	0.00	0.00	3	1.35	1.70	3	
Hungary	0	0.00	0.00	3	1.35	1.70	3	
Mexico	1	0.45	0.72	3	1.35	1.70	2	300.00
Ukraine	2	0.90	1.44	2	0.90	1.14	0	100.00
Poland	1	0.45	0.72	2	0.90	1.14	1	200.00
Oman	1	0.45	0.72	2	0.90	1.14	1	200.00
Peru	1	0.45	0.72	2	0.90	1.14	1	200.00
Singapore	1	0.45	0.72	2	0.90	1.14	1	200.00
Philippines	1	0.45	0.72	2	0.90	1.14	1	200.00
Vietnam	1	0.45	0.72	2	0.90	1.14	1	200.00
Saudi Arabia	0	0.00	0.00	2	0.90	1.14	2	
Kazakhstan	0	0.00	0.00	2	0.90	1.14	2	
Algeria	0	0.00	0.00	2	0.90	1.14	2	
United Arab Emirates	0	0.00	0.00	2	0.90	1.14	2	
Democratic Republic of the Congo	2	0.90	1.44	1	0.45	0.57	-1	50.00
Other individual countries	15	6.76	10.79	30	13.51	17.05	15	200.00
Total	**262**	-	-	**475**	-	-	**213**	181.30
Number of reported countries	**44**	-	-	**66**	-	-	**22**	-
new countries under IFRS 8							**23**	
not reported any more under IFRS 8							**1**	

based on geographic revenue disclosure

Table 6.11 Geographic regions used by the companies under IAS 14R and IFRS 8 (N=222)

Geographic regions	IAS14R			IFRS8			Change	
	companies							in %
	Number	%, N=222	%, N=179	Number	%, N=222	%, N=188	in number	IAS14=100%
ROW	96	43.24	53.63	124	55.86	65.96	28	129.17
Rest of / Other Europe	33	14.86	18.44	39	17.57	20.74	6	118.18
North America	58	26.13	32.40	36	16.22	19.15	-22	62.07
Europe	47	21.17	26.26	24	10.81	12.77	-23	51.06
Asia Pacific	34	15.32	18.99	20	9.01	10.64	-14	58.82
Americas	30	13.51	16.76	16	7.21	8.51	-14	53.33
Continental Europe / Mainland Europe	23	10.36	12.85	15	6.76	7.98	-8	65.22
Asia	18	8.11	10.06	13	5.86	6.91	-5	72.22
Africa	11	4.95	6.15	10	4.50	5.32	-1	90.91
Rest of / Other North America	2	0.90	1.12	9	4.05	4.79	7	450.00
Rest of / Other Americas	1	0.45	0.56	7	3.15	3.72	6	700.00
South America	10	4.50	5.59	6	2.70	3.19	-4	60.00
Middle East	8	3.60	4.47	6	2.70	3.19	-2	75.00
Rest of / Other Asia	4	1.80	2.23	6	2.70	3.19	2	150.00
Rest of / Other Asia Pacific	1	0.45	0.56	6	2.70	3.19	5	600.00
(EMEA) Europe, Middle East and Africa	9	4.05	5.03	5	2.25	2.66	-4	55.56
Latin America	5	2.25	2.79	4	1.80	2.13	-1	80.00
Nordic	4	1.80	2.23	3	1.35	1.60	-1	75.00
Eastern Europe	3	1.35	1.68	3	1.35	1.60	0	100.00
Western Europe	3	1.35	1.68	3	1.35	1.60	0	100.00
Benelux	1	0.45	0.56	3	1.35	1.60	2	300.00
Africa and Middle East	4	1.80	2.23	2	0.90	1.06	-2	50.00
Europe and Middle East	4	1.80	2.23	2	0.90	1.06	-2	50.00
Australia and Asia	2	0.90	1.12	2	0.90	1.06	0	100.00
Far East	2	0.90	1.12	2	0.90	1.06	0	100.00
Rest of / Other Africa	2	0.90	1.12	2	0.90	1.06	0	100.00
Central Europe	1	0.45	0.56	2	0.90	1.06	1	200.00
Middle East and Africa	1	0.45	0.56	2	0.90	1.06	1	200.00
Middle East and the Gulf States	1	0.45	0.56	2	0.90	1.06	1	200.00
Northern Europe	1	0.45	0.56	2	0.90	1.06	1	200.00
South Asia	1	0.45	0.56	2	0.90	1.06	1	200.00
Rest of / Other South America	0	0.00	0.00	2	0.90	1.06	2	
Rest of Europe, Middle East and Africa	0	0.00	0.00	2	0.90	1.06	2	
Rest of Western Europe	0	0.00	0.00	2	0.90	1.06	2	
Australia and Far East	3	1.35	1.68	1	0.45	0.53	-2	33.33
Continental Europe and Rest of World	2	0.90	1.12	1	0.45	0.53	-1	50.00
Other geographic ares reported by only one company	49	22.07	27.37	42	18.92	22.34	-7	85.71
Total	**474**	-	-	**428**	-	-	**-46**	90.30
Number of different regions reported	**82**	-	-	**78**	-	-	**-4**	-
new area under IFRS 8							**19**	
not reported any more under IFRS 8							**23**	

based on geographic revenue disclosure

IFRS 8 only requires the disclosure of country level information for the company's country of domicile and for individually material countries. Additionally, the companies may disclose geographic information (as geographic or mixed reportable segments and / or voluntarily as entity-wide information) for group of countries (geographic regions). Under IAS 14R 82 and under IFRS 8 78 geographic regions were reported. The number of disclosed geographic regions decreased by only 4 but behind this change there was a greater movement in the geographic regions disclosed by the companies. 23 of the geographic regions were not used any more under IFRS 8 (e.g. Central, Eastern and Southern Europe; Developing Markets; European Union; Euro Zone; North Sea; Other Eastern Hemisphere; US and Canada etc.). On the other hand, the companies started to disclose 19 new geographic regions under the new segment reporting standard (e.g. China

and Europe; Emerging Europe; Europe, the Middle East, Latin America and India; Germany and Austria; North Sea and West Africa etc.). This and the fact that more than 50% (69.51%)[59] of the geographic regions was reported by only one company and an additional 23.08% (14.63%)[60] was disclosed by less than 5 of the companies indicate that the geographic disclosure of the companies is highly "personalised".

The examples above and the geographic regions listed in Table 6.11 also indicate that the companies group the individual countries in a way that is possible the most convenient for them and the problem of broad, vague geographic aggregation still has not been resolved. It can be hardly believed that a geographic region like "Europe, the Middle East, Latin America and India" can be of any use either for the management of the company or for the users of financial statements. (Table 6.11)

With the exception of the ROW "geographic region" the UK's top foreign trading regions North America and Europe (plus Rest of / Other Europe) were the most common geographic regions disclosed by the companies. (Office for National Statistics, 2010, pp140-141,Table 6.11)

The total number of geographic region disclosures decreased under IFRS 8. But the analysis reveals that this decrease is linked to a rather unfortunate structural change. The disclosure of continents as a geographic region decreased from 59.28% to 52.57% under IFRS 8. On the other hand, the use of "ROW" category as a geographic region increased from 20.68% to 29.21%. (Table 6.11, Table 6.12)

Table 6.12 Aggregation of geographic regions under IAS 14R and IFRS 8

Geographical regions	IAS14			IFRS8			Change		
	Number of regions used	Total disclosures		Number of regions used	Total disclosures		Number of regions used	Total disclosures	
		number	%		number	%		number	%
Continent	42	281	59.28	43	225	52.57	1	-55	-6.71
Multicontinent _ 2 continents	25	71	14.98	21	60	14.02	-4	-13	-0.96
Multicontinent _ 3 continents	10	21	4.43	8	14	3.27	-2	-7	-1.16
Multicontinent _ 4 continents	3	3	0.63	4	4	0.93	1	1	0.30
Multicontinent total	38	95	20.04	33	78	18.22	-5	-19	-1.82
ROW	2	98	20.68	2	125	29.21	0	28	8.53
Total	**82**	**474**	**100.00**	**78**	**428**	**100.00**	**-4**	**-46**	**0.00**

based on geographic revenue disclosure

[59] IFRS 8: 44/78 = 56.41%; IAS 14R: 57/82 = 69.51%
[60] IFRS 8:16/78; IAS 14R: 13/82

6.4.2 Change in the geographic disclosure quality and the effect of different company characteristics on the quality measures

The change in the geographic disclosure quality of the companies and the effect of the different company characteristics on the quality measures analysed in this Section for the companies providing geographic information under IAS 14R and IFRS 8.

The number of geographic locations / countries / regions disclosed

Dependent-means (paired) t-test is used to test whether the difference in the average number of geographic location/country/region disclosed under IFRS 8 and under IAS 14 is significant. On average, companies disclosed significantly higher number of geographic locations under IFRS 8 ($M_{(IFRS8,\ N=155)}$=5.04, $SE_{(IFRS8,\ N=155)}$=2.68), than under IAS 14 ($M_{(IAS14,\ N=155)}$=4.08, $SE_{(IAS14,\ N=155)}$=1.89) ($t_{(154)}$=-6.08, p=0.000). This can be explained by the significant increase in the average number of countries ($M_{(IFRS8,\ N=155)}$=2.77, $SE_{(IFRS8,\ N=155)}$=2.19, $M_{(IAS14,\ N=155)}$=1.45, $SE_{(IAS14,\ N=155)}$=1.56, $t_{(154)}$=-8.61, p=0.000) and the significant decrease in the average number of other regions (e.g. continents, multi-continents, ROW) ($M_{(IFRS8,\ N=155)}$=2.27, $SE_{(IFRS8,\ N=155)}$=1.42, $M_{(IAS14,\ N=155)}$=2.63, $SE_{(IAS14,\ N=155)}$=1.37, $t_{(154)}$=4.37, p=0.000) disclosed under IFRS 8 compared to IAS 14. (Appendix C. 10)

With the exception of the companies reporting geographic disclosures under either geographic or mixed reportable segment the companies disclosed, on average, higher number of geographic location and individual country under IFRS 8 than under IAS 14. The detailed information suggests that companies in the Basic Material and Telecommunication (Consumer Services) industries, constituents of the FTSE 100 index, US listed, provide geographic disclosure under entity-wide information and attribute revenue to individual countries based on customer location disclose, on average, higher (lower) number of geographic locations, individual countries and geographic regions under IFRS 8. Early adopter companies reported higher number of geographic locations and individual countries than not early adopters under IFRS 8. Thus, it seems companies that started to apply the new regulation earlier provided more detailed geographic revenue information as well. (Appendix C. 11 and Appendix C. 12)

Companies in the Oil and Gas and Basic Materials industries, audited by Not Big4, reporting a single segment, constituents of the FTSE100 index, not cross listed but US

listed, early adopters, attribute their revenues to the individual countries based on customer location and provide geographic disclosure under IFRS 8 either as entity-wide information or both under reportable segments and entity-wide information had, on average, greater increase in the number of the individual countries they disclosed. (Appendix C. 11 and Appendix C. 12)

Parametric and not parametric tests indicate that FTSE 100 and US listed companies disclose a significantly higher number of geographic locations and regions under both reporting standards. However, being listed in the US has no significant effect on the number of countries disclosed by companies. Being a constituent of the FTSE 100 index has significant effect on the number of countries reported under IFRS 8. Some of the results indicate that the industry type can have significant effect on the number of reported locations, regions, countries but the results are not conclusive. (Appendix D. 13 and Table 6.25)

The number of geographic locations ($r_{(IFRS\ 8)} = 0.530$, $p_{(IFRS\ 8)} = 0.000$), countries ($r_{(IFRS\ 8)} = 0.388$, $p_{(IFRS\ 8)} = 0.000$) and regions ($r_{(IFRS\ 8)} = 0.472$, $p_{(IFRS\ 8)} = 0.000$) reported by the companies under IFRS 8 is significantly, positively correlated with level of international visibility (proxied by the percentage of the foreign revenues within the total revenues). However, under IAS 14 R there was no significant relationship between the foreign revenue percentage and the reported number of individual countries ($r_{(IAS\ 14R)} = 0.106$, $p_{(IAS\ 14R)} = 0.190$). The greater the number of the countries where the company has subsidiaries, the higher the number of geographic locations ($r_{(IFRS\ 8)} = 0.158$, $p_{(IFRS\ 8)} = 0.049$) and regions ($r_{(IFRS\ 8)} = 0.249$, $p_{(IFRS\ 8)} = 0.002$) disclosed by the company. Surprisingly, the correlation coefficient does not indicate a significant relationship between the number of countries with subsidiary and the number of reported countries ($r_{(IFRS\ 8)} = 0.032$, $p_{(IFRS\ 8)} = 0.689$). (Appendix C. 28, Appendix C. 29 and Appendix C. 30) The results also suggest, that the companies' disclosure practice under the new regulation is highly correlated with the companies' disclosure practice under IAS 14R. The number of locations (countries, regions) reported under IFRS 8 are positively correlated with the number of locations[61] (countries[62], regions[63]) reported under IAS 14R. It also seems that companies with higher level gearing disclose greater number of

[61] ($r_{(IFRS\ 8)} = 0.678$, $p_{(IFRS\ 8)} = 0.000$)
[62] ($r_{(IFRS\ 8)} = 0.527$, $p_{(IFRS\ 8)} = 0.000$)
[63] ($r_{(IFRS\ 8)} = 0.738$, $p_{(IFRS\ 8)} = 0.000$)

geographic locations ($r_{(IFRS\ 8)}$ = 0.225, $p_{(IFRS\ 8)}$ = 0.005) and countries ($r_{(IFRS\ 8)}$ = 0.233, $p_{(IFRS\ 8)}$ = 0.004) under IFRS 8. Additionally, the higher the market concentration (measured by HHI), the greater the number of the individually disclosed countries($r_{(IFRS\ 8)}$ = 0.186, $p_{(IFRS\ 8)}$ = 0.020) . (Appendix C. 28 - Appendix C. 32 and Table 6.26)

The distribution of the disclosed geographic revenue

The adoption of IFRS 8 resulted in a shift in the number of geographic locations reported by the companies. The use of individual countries increased while the use of geographic regions decreased. Additionally, the use of more specific geographic regions (continent) decreased whereas the use of the ROW category increased. (see in Section 6.4.1) The change in the number of the geographic locations reported by the companies resulted in a change in the distribution of the revenue reported by different geographic locations. The percentage of the total revenues reported by individual countries increased from 47.97% to 60.32%. In addition, the percentage of the total revenues reported by ROW also increased from 9.79% to 16.70%. On the other hand, the percentage of the total revenues reported by continent and multi-continent decreased from 42.24% (33.85% + 8.39%) to 22.98% (18.07% + 4.91%). Thus, while the new standard demonstrated great improvement in country level revenue disclosure it also resulted in a significant increase in more aggregated revenue information reported under the "foreign, other, ROW" category. (Table 6.13, Appendix D. 14)

Table 6.13 Revenue distribution under IAS 14R and IFRS 8

Revenue distribution	**IAS14 R**		**IFRS8**	
N=155	**£m**	**%**	**£m**	**%**
Revenue by country	480,767	47.97	545,494	60.32
Revenue by continent	339,237	33.85	163,417	18.07
Revenue by multicontinent	84,135	8.39	44,399	4.91
Revenue by foreign & other / ROW	98,102	9.79	151,053	16.70
Total	**1,002,241**	**100.00**	**904,362**	**100.00**

The proportion of revenue reported by country and ROW is further analysed. Under IAS 14R about a fifth (18.71%) of the companies did not disclose country level information and about half of them (48.39%) allocated only 40.00% or less of their total revenues to individual countries. Under IFRS 8 there was a significant improvement and as a result

of this improvement more than half[64] (third[65]) of the companies allocated more than 60.00% (80.00%) of their revenues to individual countries. (see the change in Median as well, 43.08% → 67.49%) (Table 6.14)

Table 6.14 The proportion of revenue reported by country under IAS 14R and IFRS 8 (N=155)

	IAS 14 R				IFRS 8			
	Company							
			cumulative				cumulative	
Revenue % by country	number	%	number	%	number	%	number	%
0.00 - 10.00	37	23.87	37	23.87	7	4.52	7	4.52
10.01 - 20.00	18	11.61	55	35.48	10	6.45	17	10.97
20.01 - 30.00	12	7.74	67	43.23	11	7.10	28	18.06
30.01 - 40.00	8	5.16	75	48.39	10	6.45	38	24.52
40.01 - 50.00	11	7.10	86	55.48	18	11.61	56	36.13
50.01 - 60.00	12	7.74	98	63.23	11	7.10	67	43.23
60.01 - 70.00	11	7.10	109	70.32	18	11.61	85	54.84
70.01 - 80.00	10	6.45	119	76.77	18	11.61	103	66.45
80.01 - 90.00	9	5.81	128	82.58	20	12.90	123	79.35
90.01 - 100.00	27	17.42	155	100.00	32	20.65	155	100.00
Total	**155**	**100.00**			**155**	**100.00**		
0.00	**29**	**18.71**			**0**	**0.00**		
100.00	**11**	**7.10**			**9**	**5.81**		
	%							
Mean	**44.45**				**61.52**			
Median	43.08				67.49			
Minimum	0.00				1.19			
Maximum	100.00				100.00			
Range	**100.00**				**98.81**			
Std. Deviation	**35.63**				**28.82**			
Change in revenue % provided by country	**Company**							
	number				**%**			
Increase	98				63.23			
Decrease	49				31.61			
No change	8				5.16			
Total	**155**				**100.00**			

Under IAS 14 R 11 companies and under IFRS 8 9 companies disclosed all of their revenues by individual countries. 8 of these companies allocated 100% of their total revenues to individual countries under both reporting standard. (Table 6.14)

The mean of the percentage of total revenues by country increased significantly ($t_{(154)}$=-7.732, p=0.000) from 44.45% to 61.52%. (Appendix C. 1) 63.23% of the sample companies increased and almost a third (31.61%) of the sample companies decreased the percentage of their total revenues reported by individual countries. There were

[64] 11.61+11.61+12.90+20.65=56.77%
[65] 12.90+20.65=33.55%

outstanding changes within both the "increase" and "decrease" group of companies. CSR (8.23% → 95.28%), Petrofac (0.00% → 87.31%), Balfour Beatty (0.00% → 91.59%) all increased the percentage of their total revenues reported by countries by more than 80 percentage points. Balfour Beatty and Petrofac did not report any revenue allocated to individual countries under IAS 14R. But for example, Logica decreased the percentage of its total revenues allocated to individual countries by more than 20 percentage points (61.81 → 41.64) because it stopped providing revenue information for the Netherland and for Germany under IFRS 8. These two countries were aggregated into geographic regions (Benelux, International).

Table 6.15 The proportion of revenue reported by ROW under IAS 14R and IFRS 8 (N=155)

	IAS 14 R				IFRS 8			
	Company							
			cumulative				cumulative	
Revenue % by ROW	**number**	**%**	**number**	**%**	**number**	**%**	**number**	**%**
0.00 - 10.00	124	80.00	124	80.00	105	67.74	105	67.74
10.01 - 20.00	13	8.39	137	88.39	18	11.61	123	79.35
20.01 - 30.00	12	7.74	149	96.13	10	6.45	133	85.81
30.01 - 40.00	3	1.94	152	98.06	7	4.52	140	90.32
40.01 - 50.00	2	1.29	154	99.35	2	1.29	142	91.61
50.01 - 60.00	1	0.65	155	100.00	5	3.23	147	94.84
60.01 - 70.00	0	0.00	155	100.00	5	3.23	152	98.06
70.01 - 80.00	0	0.00	155	100.00	2	1.29	154	99.35
80.01 - 90.00	0	0.00	155	100.00	1	0.65	155	100.00
90.01 - 100.00	0	0.00	155	100.00	0	0.00	155	100.00
Total	**155**	**100.00**			**155**	**100.00**		
0.00	**72**	**46.45**			**53**	**34.19**		
> 0.00	**83**	**53.55**			**102**	**65.81**		
				%				
Mean				**6.22**				**12.00**
Median				0.77				2.98
Minimum				0.00				0.00
Maximum				58.98				88.48
Range				**58.98**				**88.48**
Std. Deviation				**10.33**				**19.09**
Change in revenue % provided by ROW	**Company**							
	number				**%**			
Increase				76				49.03
Decrease				28				18.06
No change				51				32.90
Total				**155**				**100.00**

Almost half of the companies (46.45%) did not use the ROW "geographic region" under IAS 14R. The number of these companies decreased from 72 to 53 (34.19%) under IFRS 8. The companies disclosed maximum 60% of their revenues by ROW under IAS 14R.

More importantly, 80.00% of the companies disclosed less than 10% of their revenues by ROW. Even under IFRS 8 only 8 companies reported more than 60% of their total revenues by ROW. Thus, it seems that most of the companies try to keep the ROW category relatively low. (Table 6.15)

However, the mean of the percentage of the total revenues reported by ROW increased significantly ($p_{(154)}$=-3.931, p=0.000) from 6.22% to 12.00%. (Appendix C. 18) If we assume that the companies used a 10% quantitative threshold for materiality these numbers seem to be reasonably low even after the significant increase under IFRS 8. However, the percentage of the total revenues allocated to ROW varies significantly between the companies (see Table 6.15, Standard Deviations are almost twice the value of the means).

76 of the sample companies increased and only 28 companies decreased the percentage of their total revenues reported by ROW. (Table 6.15) Sthree (47.79% → 4.94%), De La Rue (58.98% → 16.95%) and RPS Group (33.90% → 0.35%) made a great decrease in the use of ROW category. However, in the case of De La Rue the decrease was not the result of the company's intention to provide less aggregated, more detailed information but the result of the use of different attribution basis for allocating revenues. On the other hand, Croda International for example increased the percentage of its total revenues reported under ROW by more than 70 percentage point (2.56% → 73.63%).

Single segment, not cross listed, not US listed, early adopter companies, companies in the Utilities and Telecommunications industries and companies attributing their revenues based on origin and have mixed reporting segments under IFRS 8, on average, allocated more of their total revenues to individual countries. Companies in the Oil and Gas industry, on average, allocated 35.52% of their revenues to individual countries under IAS 14 R. Under IFRS 8, on average, 76.30% of the total revenues of the same companies were allocated to individual countries. Extractive industry initiatives and regulations / proposed regulations requiring CBCR from companies in the extractive industries might have had a positive effect on the segmental reporting notes of these companies. (see more in Chapter 8) Companies in the Basic Materials industry also increased the proportion of their revenues reported by country. However, the proportion of the revenues reported by countries by the companies in this industry, on average, are still under 47.03%, which is less than the mean for all industries (61.52%). (Appendix C. 19 and Appendix C. 20)

The average of the total revenue reported as ROW increased with the exception of single segment companies and companies reporting geographic revenue information under geographic reporting segments. (Appendix C. 19 and Appendix C. 20)

While both industry type and US listing had significant effect on the revenue percentage reported by country under IAS 14R only industry type has significant effect on the revenue percentage reported by country under IFRS 8. Follow up post hoc analysis indicated that companies in the Basic Materials, Industrials and Technology industries reported significantly lower percentage of their total revenues by individual countries than companies in the Utilities industry. None of the company characteristics had significant effect on the percentage of the total revenues reported by ROW. (Table 6.25 and Appendix C. 16)

It is not surprising that there is significant negative correlation between the percentage of the total revenues reported by country and the percentage of the total revenues reported under ROW category both under IAS 14 R and under IFRS 8 ($r_{(IFRS\ 8)} = -0.338$, $p_{(IFRS\ 8)} = 0.000$; $r_{(IAS\ 14R)} = -0.258$, $p_{(IAS\ 14R)} = 0.001$). The percentage of the total revenues reported by country under IFRS 8 significantly, positively correlated to the percentage of the total revenues reported by country under IAS 14 ($r_{(IFRS\ 8)} = 0.655$, $p_{(IFRS\ 8)} = 0.000$) and to the number of individual countries reported under IFRS 8 ($r_{(IFRS\ 8)} = 0.328$, $p_{(IFRS\ 8)} = 0.000$). There is significant, negative correlation between the percentage of the total revenues reported by country and the proportion of the foreign revenues within total revenues ($r_{(IFRS\ 8)} = -0.461$, $p_{(IFRS\ 8)} = 0.000$), the number of countries where the company has subsidiaries ($r_{(IFRS\ 8)} = -0.382$, $p_{(IFRS\ 8)} = 0.000$) and the number of regions the company reports ($r_{(IFRS\ 8)} = -0.435$, $p_{(IFRS\ 8)} = 0.000$). Thus, the higher the percentage of the foreign revenues, the greater the number of countries where the company has subsidiaries and the greater the number of geographic regions reported by the company, the lower the percentage of the total revenues reported by individual countries. Whereas, the higher the proportion of the foreign revenues within the company's total revenues ($r_{(IFRS\ 8)} = 0.230$, $p_{(IFRS\ 8)} = 0.004$) and the greater the number of the countries where the company has subsidiaries ($r_{(IFRS\ 8)} = 0.313$, $p_{(IFRS\ 8)} = 0.000$), the greater the percentage of the total revenues reported under ROW by the company. (Appendix C. 28 - Appendix C. 32 and Table 6.26)

The fineness of geographic revenue information provided by the companies

Doupnik and Seese (2001) argue that comparing the number of geographic areas reported under the old (SFAS 14) and the new standards (SFAS 131) is an imperfect measure of the change in fineness. The new regulation requires the disclosure of country-level information if the country is material. However, the geographic areas reported under the old regulation are likely to be more aggregated (countries, continent, multi-continent etc.). The authors argue that *"an information set in which disclosures are made on a country basis but for a small number of countries may be more useful than information set in which data are provided for a greater number of areas but at more aggregated level."* (p124) Additionally, a higher percentage of total foreign revenues disclosed by geographic areas probable provides more useful geographic information for financial statement users.

Calculation of Fineness score

Doupnik and Seese (2001) developed a fineness score *"that combines the number of areas reported, the level of aggregation represented by each area and the percentage of foreign operation in that area"*. (p124) (Equation 6.1)

(Equation 6.1)

$$F = \sum_{i=1}^{n} \left(\frac{AREAREV_i}{FORREV} \right) * weight_i$$

Where

$AREAREV_i$	=	revenue for geographic area *i*
FORREV	=	total foreign revenues
$weight_i$	=	0, for geographic areas described as "Foreign" or "Other"
		1, for geographic areas defined as multi-continents
		2, for geographic areas defined as continents
		3, for geographic areas defined as countries

Source: Doupnik and Seese, 2001, p124.

Doupnik and Seese (2001) used two other weighting schemes to test the sensitivity of the fineness score to the weights used. For geographic areas defined as countries they used weight 4 and 8 beside weight 3, with other weights remaining the same.

The higher the fineness score, the finer the geographic revenue information provided by a company. The comparison of the fineness scores under the old regulation and under the

new regulation can indicate whether the companies provided finer geographical revenue information under the new segment reporting standard. (Doupnik and Seese, 2001)

Doupnik and Seese (2001) did not find significant change in the mean fineness score when they weighted the country level disclosures by 3. However, they found significant increase in the mean fineness score when they assigned weight 4 and 8 to the country level disclosures. Thus, for their sample the change in the fineness score depends on the weight assigned to the country level information.

Table 6.16 Examples of the calculation of fineness scores

Panel A

Revenue by destination

The following table provides an analysis of the Group's sales by geographical market.

	2009 £'000	2008 £'000
United Kingdom	173,042	184,845
Continental Europe	59,453	51,892
Canada	13,415	15,999
USA	336,236	225,530
Rest of World	68,890	37,005
	651,036	515,271

Ultra Electronics Holdings Plc, Annual Report and Accounts 2009, p59.

Panel B

Revenue by destination

	2008 £'000	2007 £'000
United Kingdom	184,845	171,729
Continental Europe	51,892	43,556
Canada	15,999	17,788
USA	225,530	154,032
Rest of World	37,005	25,785
	515,271	412,890

Ultra Electronics Holdings Plc, Annual Report and Accounts 2008, p52.

Panel C

	Revenue £'000	AREAREV / FORREV	Weight			F		
						Country weight		
			3	4	8	3	4	8
Area	**1**	**2**	**3**			**4 = 3*2**		
Under IAS 14 _ 2008								
Country	426,374	0.83	3	4	8	2.48	3.31	6.62
Continent	51,892	0.10	2	2	2	0.20	0.20	0.20
Multicontinent	0	0.00	1	1	1	0.00	0.00	0.00
Foreign / other	37,005	0.07	0	0	0	0.00	0.00	0.00
Total	**515,271**	**1.00**				**2.68**	**3.51**	**6.82**
Under IFRS 8 _ 2009								
Country	522,693	0.80	3	4	8	2.41	3.21	6.42
Continent	59,453	0.09	2	2	2	0.18	0.18	0.18
Multicontinent	0	0.00	1	1	1	0.00	0.00	0.00
Foreign / other	68,890	0.11	0	0	0	0.00	0.00	0.00
Total	**651,036**	**1.00**				**2.59**	**3.39**	**6.60**
Difference						-0.09	-0.12	-0.22

In this study "total revenues" (TOTREV) is used instead of "foreign revenues" (FORREV) to calculate the measurement of the fineness of geographic revenue information. Thus, the fineness of geographic revenue information measured rather than the fineness of foreign revenue disclosed. (Equation 6.2)

(Equation 6.2)

$$F_c = \sum_{i=1}^{n} \left(\frac{AREAREV_i}{TOTREV}\right) * weight_i$$

Where

$AREAREV_i$	=	revenue for geographic area *i*
TOTREV	=	total revenues
$weight_i$	=	0, for geographic areas described as Foreign/Other/ROW
		1, for geographic areas defined as multi-continents
		2, for geographic areas defined as continents
		3, 4 or 8 for geographic areas defined as countries
c		country weight = 3, 4 and 8

based on Doupnik and Seese, 2001, p124.

To check the robustness of the fineness score the three weighting schemes applied by Doupnik and Seese (2001) (country weight = 3, 4, and 8) is also used in this study.

Different growth rates of revenues from different geographic areas (change in the structure of the revenue) can easily change the fineness score of a company from one year to another even if the company uses exactly the same geographic areas under both IAS 14R and IFRS 8. (see an example in Panel A, B, C in Table 6.16) The study focuses on the first time adoption of IFRS 8. Corresponding (restated) information for the new reporting structure is available in the Annual Report of the companies. Therefore, the restated and the original IAS 14 numbers are compared to capture the change due to the more / less detailed geographic information provided by the sample companies under IFRS 8. (Panel A, B, C in Table 6.17)

Change in fineness scores and the effect of different company characteristic on the fineness score

When assigning country level disclosures weight=3, paired t-test indicates significant increase in the mean fineness score from the last application of IAS 14R ($M_{(IAS14R,\ N=155)}$=2.17; $SE_{(IAS14R,\ N=155)}$=0.60) to the first application of IFRS 8 ($M_{(IAS14Rrestated,}$

$N=155)$=2.31; $SE_{(IAS14Rrestated, N=155)}$=0.59). On average, companies disclosed significantly finer geographic revenue information under IFRS 8 than under IAS 14R ($t_{(154)}$=-3.69, p=0.000). (Table 6.18, Appendix C. 21 and Appendix C. 22)

Table 6.17 Example of the decomposition of the change in fineness score

Panel A

Geographical information

	Revenue (by location of customer) 2009 £m	2008 £m
Ireland	2.3	4.0
UK	67.8	73.5
Other Europe	525.6	682.5
Europe	595.7	760.0
USA	297.0	346.8
Other North America	70.6	73.3
North America	367.6	420.1
Brazil	159.1	164.5
Other South America	44.5	63.8
South America	203.6	228.3
China	150.2	173.0
Rest of world	342.1	305.6
Total	1,659.2	1,887.0

Charter International Plc, Annual Report 2009, p78.

Panel B

Secondary reporting format – geographical segments

The Group's operations are based in five principal geographic areas.

	Revenue 2008 £m	2007 £m
Europe	760.0	615.4
North America	420.1	328.2
South America	228.3	152.6
China	173.0	138.8
Rest of world	305.6	216.1
	1,887.0	1,451.1
Investment in associates	–	–
Unallocated assets: Deferred income tax	–	–
	1,887.0	1,451.1

Charter International Plc, Annual Report 2008, p70.

Panel C

	Revenue £'m	AREAREV / FORREV	Weight			F		
						Country weight		
			3	4	8	3	4	8
Area	**1**	**2**		**3**			**4 = 3*2**	
Under IAS 14 _ 2008								
Country	173	0.09	3	4	8	0.28	0.37	0.74
Continent	1,408	0.75	2	2	2	1.49	1.49	1.49
Multicontinent	0	0.00	1	1	1	0.00	0.00	0.00
Foreign / other	306	0.16	0	0	0	0.00	0.00	0.00
Total	**1,887**	**1.00**				1.77	1.86	2.23
Under IFRS 8 _ 2009								
Country	676	0.41	3	4	8	1.23	1.63	3.26
Continent	641	0.39	2	2	2	0.77	0.77	0.77
Multicontinent	0	0.00	1	1	1	0.00	0.00	0.00
Foreign / other	342	0.21	0	0	0	0.00	0.00	0.00
Total	**1,659**	**1.00**				2.00	2.40	4.03
Under IFRS 8 _ Restated 2008								
Country	762	0.40	3	4	8	1.21	1.61	3.23
Continent	820	0.43	2	2	2	0.87	0.87	0.87
Multicontinent	0	0.00	1	1	1	0.00	0.00	0.00
Foreign / other	306	0.16	0	0	0	0.00	0.00	0.00
Total	**1,887**	**1.00**				2.08	2.48	4.10
Difference (IFRS 8 _ 2009) - (IAS 14 _ 2008)						0.23	0.54	1.80
Difference (IFRS 8 _ Restated 2008) - (IFRS 8 _ 2009)						0.08	0.08	0.07
Difference (IFRS 8 _ Restated 2008) - (IAS 14 2008)						0.31	0.62	1.87

The fineness score increased for two fifth of the companies (66 companies, 42.58% of the sample). Some companies had great increase in fineness score by simply reporting less broad geographic areas. For example, Bodycote used Europe, Middle East and Africa, Americas, Asia Pacific geographic areas under IAS 14R and Western Europe, North America and Emerging Markets under IFRS 8. The use of continents (North America) instead of multi-continents (Americas) resulted in a 1.46 increase in the fineness score of the company. Others, for example Misys started to provide revenue information for additional material countries (IAS 14R: UK, Rest of Europe, Asia-Pacific, Americas → IFRS 8: UK, Rest of Europe, Asia-Pacific, USA, Middle East and Africa). The decrease of the fineness score for 27 companies indicated that almost a fifth of the sample companies (17.42%) provided less fine geographic revenue information under the new standard. Within this group Victrex plc had the greatest decrease in fineness score (from 2.34 to 1.07). Under IAS 14R (2009) Victrex disaggregated its revenue into Europe, US and Asia-Pacific geographic areas. Whereas, under IFRS 8 (2010) the company used broader geographic areas (EMEA, Americas and Asia-Pacific) and stopped to disclose separately its revenues from the US. In both years the company attributed its revenues to the reported geographical areas based on the customer's location. In 2009 44.15% of the company's revenues were allocated to the US. It is hard to believe that in 2010 the revenues from the US were not material enough to be disclosed separately. Generally, companies in this group started to use broader geographic areas (e.g. Victrex) or reported only revenues from the country of domicile and foreign revenues (e.g. Rentokil). Additionally, for 62 of the sample companies (40.00%) the fineness score did not change at all. These companies used exactly the same geographic revenue reporting structure under both segmental reporting standards. (Table 6.18 and Appendix C. 21)

Table 6.18 Change in fineness scores (N=155)

	Fineness								
	Country weight = 3			Country weight = 4			Country weight = 8		
	IAS 14 R	IAS 14 R restated	Change	IAS 14 R	IAS 14 R restated	Change	IAS 14 R	IAS 14 R restated	Change
	Statistics								
	N=155								
Mean	2.17	2.31	0.14	2.61	2.93	0.32	4.39	5.41	1.02
Standard Deviation	0.60	0.59	-0.01	0.94	0.85	-0.09	2.34	1.96	-0.38
	Change in fineness (number & % of companies)								
Increase			66	42.58%		70	45.16%		77	49.68%
Decrease			27	17.42%		23	14.84%		16	10.32%
No change			62	40.00%		62	40.00%		62	40.00%
Total			**155**	**100.00%**		**155**	**100.00%**		**155**	**100.00%**

The company with the greatest increase in fineness score (from 0.82 to 2.42) is De La Rue. Under IAS 14R (2009) the company disaggregated its revenues into UK and Ireland, Rest of Europe, Americas and ROW geographic areas. Under IFRS 8 (2010) the company

only disclosed revenues from the UK and from "Other" countries. Thus, a decrease in fineness score could be expected. Under IAS 14R the company attributed its revenues to the different geographic areas based on destination. In 2009 12.36% of the revenues was allocated to the UK and Ireland geographic segment. However, under IFRS8 the company attributed its revenues to the geographic areas based on origin. As a result, in 2010 83.05% of the revenues were allocated to the UK geographic area (80.75% based on the restated 2009's numbers). This example clearly indicates that one selected quality measure (e.g. change in fineness score or change in the number of reported areas) is not enough to analyse the effects of the new standard and the different measures should be analysed with caution.

Appendix C. 24 provides the means and standard deviations of the fineness scores by different categorical variables. Early adopter, single segment, not cross listed, not US listed, not FTSE 100 companies, companies audited by Big4_D and Big4_A (Not Big4 and Big4_C), companies providing geographic information only under geographic or mixed reporting segments, companies attributing their revenues to individual countries based on the origin of the revenues, and companies in the Utilities (Technology) industry, on average, provide more (less) fine geographic revenue information under IAS 14R and IFRS 8. Companies providing geographic revenue information only under geographic ($F_{3,\ IAS14R}$=2.41; $F_{3,\ IAS14Rrestated}$=2.45) or mixed ($F_{3,\ IAS14R}$=2.49; $F_{3,\ IAS14Rrestated}$=2.42) reporting segments and companies providing geographic information under reporting segments and entity-wide information in the same structure ($F_{3,\ IAS14R}$=2.45; $F_{3,\ IAS14Rrestated}$=2.59) have the highest fineness score under both segmental reporting standards. Whereas, companies providing only entity-wide geographic revenue information (companies with business reporting segments; $F_{3,\ IAS14R}$=2.12; $F_{3,\ IAS14Rrestated}$=2.30) or disclosing geographic revenue information under both reporting segments and entity-wide disclosures but in a different structure ($F_{3,\ IAS14R}$=2.04; $F_{3,\ IAS14Rrestated}$=2.20) have the lowest fineness score.[66] (Appendix C. 23 and Appendix C. 24) However, none of the previously mentioned company characteristics (industry, auditor, single segment, early adopter, FTSE 100/250, cross listing, US listing, type of reporting segment, type of geographic disclosure under IFRS 8 and base of revenue attribution) seems to have significant effect on the IFRS 8 fineness score. There is some evidence

[66] However, the fineness score for companies providing only entity-wide information significantly increased under the new standard ($t_{(97)}$=-3.54, p=0.001).

that industry type, US listing and the way the companies report geographic information under IFRS 8 have significant effect on the IAS 14R fineness score.[67] (Appendix C. 25)

The correlation coefficient between the IAS 14R and IFRS 8 fineness scores shows significant, positive correlation ($r_{(IFRS\ 8)} = 0.680$, $p_{(IFRS\ 8)} = 0.000$). This is in line with the previous findings. Thus, the disclosure practice of the companies under IFRS 8 is based on their disclosure practice under IAS 14. Additionally, the higher the proportion of the foreign revenues within the total revenues ($r_{(IFRS\ 8)} = -0.497$, $p_{(IFRS\ 8)} = 0.000$) and the greater the number of the countries where the company has subsidiaries ($r_{(IFRS\ 8)} = -0.454$, $p_{(IFRS\ 8)} = 0.000$), the lower the fineness score. (Appendix C. 28, Appendix C. 29 and Appendix C. 30) Furthermore, the higher the number of tax haven countries where the companies have subsidiaries ($r_{(IFRS\ 8)} = -0.298$, $p_{(IFRS\ 8)} = 0.000$)/ the number of subsidiaries in tax haven countries ($r_{(IFRS\ 8)} = -0.218$, $p_{(IFRS\ 8)} = 0.006$), the lower the fineness score. Thus, the results provide some indication that the companies' tax policy (when proxied by the number of tax haven countries with subsidiaries or with the number of subsidiaries in tax havens) affects the companies' geographic disclosure practice / quality.

The use of country level weight=4 and 8 generally lead to similar results. (Appendix C. 21 - Appendix C. 25 and Table 6.18)

The number of items disclosed by country

Table 6.19 shows the items disclosed by the companies for individual countries under IFRS 8. Most companies report only external revenues and NCA for individual countries. This is not surprising because more than half of the companies (87/155=56.19%) provided information under entity-wide disclosures. These companies only had to report external revenue and NCA for their country of domicile and for their individually material foreign countries. IAS 14R required the disclosure of external revenues, segment assets and capital expenditures for secondary segments. Most of these companies provided geographic information entity-wide disclosure under IFRS 8. (Table 6.2) About a fifth of the companies that report geographic information under entity-wide disclosure kept providing capital expenditures items under IFRS 8 as well. However, with the exception of some Financial Statement items (mostly some additional asset measure) the companies

[67] But for the industry type and US listing the significant effect can only be measured when weight =4 and 8 were assigned to the country level revenue disclosures.

generally did not disclose any additional, voluntary financial statements items by country. Whereas, more than 60% of the companies that provided country level information under their geographic or mixed reportable segments disclosed capital expenditure, segment assets, depreciation / amortisation and segment liabilities for their individually reported countries. (Table 6.19)

Table 6.19 Items disclosed by individual country under IFRS 8 (N=155)

Geographic disclosure under IFRS 8 / Item	Geographic reportable segment		Mixed reportable segment		Entity-wide information		Both EWI & reportable segment		Total	
	Company									
	No.	%	No.	%	No.	%	No.	%	No.	%
Revenues from external customer	15	100.00	13	100.00	87	100.00	40	100.00	**155**	**100.00**
Non-current assets	6	40.00	4	30.77	71	81.61	31	77.50	**112**	**72.26**
Capital expenditure	12	80.00	11	84.62	18	20.69	11	27.50	**52**	**33.55**
Segment Assets	13	86.67	10	76.92	14	16.09	13	32.50	**50**	**32.26**
Profit measure	15	100.00	13	100.00	5	5.75	10	25.00	**43**	**27.74**
Depreciation / Amortisation	12	80.00	11	84.62	2	2.30	8	20.00	**33**	**21.29**
Segment Liabilities	10	66.67	8	61.54	0	0.00	8	20.00	**26**	**16.77**
Additional Balance Sheet items[1]	6	40.00	3	23.08	6	6.90	6	15.00	**21**	**13.55**
Intersegment revenues	4	26.67	3	23.08	2	2.30	6	15.00	**15**	**9.68**
Additional Income Statement items[2]	5	33.33	3	23.08	1	1.15	3	7.50	**12**	**7.74**
Equity method interest	3	20.00	4	30.77	1	1.15	3	7.50	**11**	**7.10**
Exceptional items	1	6.67	5	38.46	0	0.00	5	12.50	**11**	**7.10**
Equity method investment	3	20.00	1	7.69	0	0.00	3	7.50	**7**	**4.52**
Other material non-cash item	2	13.33	1	7.69	0	0.00	0	0.00	**3**	**1.94**
Share based payments	2	13.33	0	0.00	0	0.00	1	2.50	**3**	**1.94**
Number of employees	0	0.00	0	0.00	2	2.30	0	0.00	**2**	**1.29**
Financial Ratio	1	6.67	1	7.69	0	0.00	0	0.00	**2**	**1.29**
Net interest	1	6.67	0	0.00	0	0.00	0	0.00	**1**	**0.65**
Restructuring expense	0	0.00	0	0.00	0	0.00	1	2.50	**1**	**0.65**
Income tax / expense	0	0.00	0	0.00	0	0.00	1	2.50	**1**	**0.65**
Interest revenue	0	0.00	0	0.00	0	0.00	0	0.00	**0**	**0.00**
Interest expense	0	0.00	0	0.00	0	0.00	0	0.00	**0**	**0.00**
Cash Flow item	0	0.00	0	0.00	0	0.00	0	0.00	**0**	**0.00**
R & D	0	0.00	0	0.00	0	0.00	0	0.00	**0**	**0.00**
Mean (St Deviation)	**7.80 (2.15)**		**7.38 (3.07)**		**2.56 (1.40)**		**3.73 (3.02)**		**3.77 (2.84)**	

[1]: e.g. PPE, tangible assets, intangible assets, net assets, goodwill, other receivables, cash at bank and hand, current assets

[2]: e.g. sales, financial income, financial cost, inventory write off, unwinding discount, net provision, cost of sales, operating expenses

Profit measure is not required to be disclosed for individual countries if they are not reported as one of the company's reportable segments. Thus, the disclosure of an earning measure for individual country is voluntary under entity-wide information. 27.74% of the companies disclosed one or more profit measure for the reported individual countries. Every company that disclosed country level information under reporting segments provided at least one profit measure. However, only 5 (5.75%) of the companies that disclosed country level information as entity-wide information provided any profit measure. (Table 6.19) Although, 27.74% seems to be quite a reasonable proportion of

the companies, users can not be really happy with the disclosed information. The companies use several different, and in many cases non GAAP, profit measures. For example the 43 profit measure disclosing company reported the following profit measures: Earnings Before Interest (EBI); Earnings Before Interest, Taxes and Amortisation (EBITA); Earnings Before Interest, Taxes, Depreciation and Amortisation (EBITDA); Profit Before Interest, Tax and Amortisation (PBITA); Profit Before Interest and Tax (PBIT); retail profit; trading profit or loss; gross profit; underlying profit; segment result; brand contribution; headline contribution; adjusted operating profit; operating profit; profit before tax; profit before financial expenses; result etc.. Thus, the comparability of the disclosed earning measures between companies is questionable.

The average number of items disclosed by the sample companies is 3.77. There are considerable differences between the number of items disclosed by the companies (standard deviation=2.84). Companies in the Consumer Services and Telecommunication (Basic Materials, Utilities) industries, audited by Big4_A (Not Big4), not cross listed (cross listed), not US listed (US listed), early adopters (not early adopters) and companies that report their geographic information under either as geographic or mixed reportable segments (entity-wide information) disclosed, on average, higher (lower) number of items for their individually reported countries. The industry type[68] and the way the company provides its geographic information significantly affects the number of items disclosed by country. Post hoc analysis indicates that companies in the Consumer Services (5.32) industry disclose significantly higher number of items by country than companies in the Basic Materials (2.40) industry. Additionally, companies that provide their geographic information under geographic (7.80) or mixed (7.38) reportable segments disclose significantly higher number of items by country than companies that provide entity-wide geographic information (2.56). (Appendix C. 26)

With the exception of current ratio none of the other quantitative company characteristics (proportion of foreign revenues, proportion of revenue reported by country, capital intensity, total sales, growth rate, profitability, current ratio, gearing, effective tax rate, number of geographic location / country / region reported, number of foreign countries with subsidiary, number of subsidiaries in foreign countries) had significant correlation

[68] although the result of the non-parametric Kruskal-Wallis test does not show this effect

with the number of items disclosed by country. (Appendix C. 28, Appendix C. 29 and Appendix C. 30)

From the 155 companies that disclosed geographic information for at least one country under IFRS 8 126 (81.29%) disclosed country level information under IAS 14R as well. The impacts of the new standard on the items disclosed by country can be further studied on this smaller sample.

On average, companies disclosed significantly lower number of items by individual countries under IFRS 8 ($M_{(IFRS8,\ N=126)}$=3.95, $SE_{(IFRS8,\ N=126)}$=0.256) than under IAS 14R ($M_{(IAS14R,\ N=126)}$=5.49, $SE_{(IAS14R,\ N=126)}$=0.257) ($t_{(125)}$=6.662, p=0.000). (Appendix C. 27, Table 6.20) The result is not surprising and was expected based on the changes introduced in the new segmental reporting standard. (see Table 2.2 and Sector 2.2 for details about the disclosure requirements of IAS 14R and IFRS 8)

Both under IAS 14R and IFRS 8 the sample companies disclosed external revenue for the reported individual countries. Beside the revenue item under IAS 14R almost all of the companies disclosed segment assets (98.41%) and capital expenditures (97.62%) and more than two fifths of the companies disclosed profit measure (44.44%) and segment liabilities (42.86%) as well. The disclosure of segment assets and capital expenditures is no longer mandatory under IFRS 8. It resulted in significant decrease in the proportion of the capital expenditure (97.62% → 39.68%) and segment asset (98.41% → 38.10%) disclosing companies. (Table 6.20)

The percentage of the profit measure disclosing companies decreased from 44.44% to 33.33% under IFRS 8. The disclosure of profit measure was required for the primary segments under IAS 14R and is required for the reportable segments under IFRS 8. Companies that provided country level geographic information as primary segments under IAS 14R and as geographic or mixed reportable segments under IFRS 8 disclosed profit measure for their individually reported countries. However, the disclosure of profit measure for other companies was / is not mandatory. The proportion of companies that voluntarily provided profit measure for their individually reported countries was low under both segmental reporting standards. (Table 6.20)

Table 6.20 Items disclosed by individual country under IAS 14R and IFRS 8 (N=126)

Geographic disclosure under IFRS 8 / Item	Geographic segments under IAS 14R						Geographic reporting under IFRS 8									
	Primary		Secondary		Total		Geographic reportable segment		Mixed reportable segment		Entity-wide information		Both EWI & rep. segment		Total	
	Company															
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Revenues from external customer	33	100.00	93	100.00	126	100.00	15	100.00	13	100.00	68	100.00	30	100.00	126	100.00
Non-current assets	1	3.03	0	0.00	1	0.79	6	40.00	4	30.77	55	80.88	22	73.33	87	69.05
Capital expenditure	33	100.00	90	96.77	123	97.62	12	80.00	11	84.62	17	25.00	10	33.33	50	39.68
Segment Assets	33	100.00	91	97.85	124	98.41	13	100.00	10	76.92	12	17.65	13	43.33	48	38.10
Profit measure	33	100.00	23	24.73	56	44.44	15	100.00	13	100.00	5	7.35	9	30.00	42	33.33
Depreciation / Amortisation	32	96.97	12	12.90	44	34.92	12	80.00	11	84.62	1	1.47	7	23.33	31	24.60
Segment Liabilities	33	100.00	21	22.58	54	42.86	10	66.67	8	61.54	0	0.00	8	26.67	26	20.63
Additional Balance Sheet items[1]	16	48.48	22	23.66	38	30.16	6	40.00	3	23.08	4	5.88	4	13.33	17	13.49
Intersegment revenues	14	42.42	5	5.38	19	15.08	4	26.67	3	23.08	2	2.94	5	16.67	14	11.11
Additional Income Statement items[2]	18	54.55	19	20.43	37	29.37	5	33.33	3	23.08	1	1.47	3	10.00	12	9.52
Exceptional items	7	21.21	7	7.53	14	11.11	1	6.67	5	38.46	0	0.00	5	16.67	11	8.73
Equity method interest	9	27.27	9	9.68	18	14.29	3	20.00	4	30.77	1	1.47	2	6.67	10	7.94
Equity method investment	8	24.24	6	6.45	14	11.11	3	20.00	1	7.69	0	0.00	3	10.00	7	5.56
Other material non-cash item	9	27.27	3	3.23	12	9.52	2	13.33	1	7.69	0	0.00	0	0.00	3	2.38
Share based payments	4	12.12	0	0.00	4	3.17	2	13.33	0	0.00	0	0.00	1	3.33	3	2.38
Number of employees	0	0.00	2	2.15	2	1.59	0	0.00	0	0.00	2	2.94	0	0.00	2	1.59
Financial Ratio	0	0.00	0	0.00	0	0.00	1	6.67	1	7.69	0	0.00	0	0.00	2	1.59
Net interest	1	3.03	0	0.00	1	0.79	1	6.67	0	0.00	0	0.00	0	0.00	1	0.79
Restructuring expense	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	3.33	1	0.79
Income tax / expense	2	6.06	0	0.00	2	1.59	0	0.00	0	0.00	0	0.00	1	3.33	1	0.79
Interest revenue	1	3.03	1	1.08	2	1.59	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Interest expense	1	3.03	0	0.00	1	0.79	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Cash Flow item	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
R & D	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Mean (St Deviation)	8.73 (1.84)		4.34 (2.25)		5.49 (2.89)		7.47 (1.85)		6.85 (2.64)		2.51 (1.11)		4.20 (3.64)		3.95 (2.88)	

[1]: e.g. PPE, tangible assets, intangible assets, net assets, goodwill, other receivables, cash at bank and hand, current assets

[2]: e.g. sales, financial income, financial cost, inventory write off, unwinding discount, net provision, cost of sales, operating expenses

The disclosure of segment liabilities was mandatory for the companies reporting geographic information under primary segments. However, under IFRS 8 the disclosure of segment liabilities became voluntary even for the companies that provide geographic information under their reportable segments. As a result the proportion of the companies that disclosed segment liabilities for individually reported countries decreased from 42.86% to 20.63%. (Table 6.20)

The results in this chapter indicate that there was significant increase in the number of countries reported by the companies under IFRS 8.[69] However, the results also suggest that for this increased number of individually reported countries the companies disclosed fewer items. Thus, it seems that the companies made a trade-off between providing less aggregated geographic locations and disclosing fewer numbers of items for these geographic locations. Pearson correlation coefficient indicates significant, negative correlation (N=126, r=-0.212, p=0.017) between the change in the number of individual countries reported and the change in the number of items disclosed by individual countries. Thus, the more the companies increased the number of their reported countries the more they decreased the number of items disclosed for their individually reported countries.

Homogeneity / heterogeneity of the companies' geographic disclosure

The different quality measures used in this study indicate considerable variation between the geographic disclosure quality of individual companies both under IAS 14 R and IFRS 8 (see standard deviations in Table 6.21). The previous part of the study tried to explain this variation with the effects of different company characteristics on the companies' geographic disclosure quality. (see Section 6.5.2) Company characteristics used in this study usually do not change significantly from one year to another. Therefore, an increase in the homogeneity (heterogeneity) of the geographic disclosure quality of the companies could be an indication of that the previously (1) poorly reporting companies enhanced (further decreased) and / or (2) good and excellent disclosers decreased (further enhanced) the quality of their geographic reporting. Previous results in this study indicated that there were companies that increased the quality and there were companies that decreased the quality of their geographic disclosure. (see e.g. Table 6.9, Table 6.18) However, the

[69] $M_{(IAS14R,\ N=126)}=1.79$, $SE_{(IAS14R,\ N=126)}=0.138$, $M_{(IFRS8,\ N=126)}=2.82$, $SE_{(IFRS8,\ N=126)}= 0.208$, $t_{(125)}=-6.091$, $p=0.000$

question is whether the introduction of IFRS 8 resulted in more homogenous geographic disclosures.

The results of this study indicate significant increase (1) in the number of countries reported, (2) in the proportion of revenues reported by countries and (3) in the fineness scores of the companies. The relative standard deviations and the changes in these relative standard deviations in Table 6.21 indicate that the homogeneity of these quality measures of the companies' geographic disclosures increased. Thus, better quality (more details, less aggregated, more homogenous) geographic information is provided by the companies in these areas under IFRS 8. This could increase the usefulness of the geographic information disclosed by the companies. On the other hand, the number of items disclosed by countries not just decreased significantly under the new standard but the companies' disclosure practice became more heterogeneous as well. These impacts of the new standard could negatively affect the usefulness of the geographic information disclosed by the companies. (Table 6.21)

However, there is evidence that the companies' geographic disclosure practice / quality under IAS 14R significantly affects the companies' geographic disclosure practice / quality under IFRS 8 (see more in Section 6.5.3 and examples e.g. in Table 6.9, Table 6.18) Whether the companies that provided poor quality geographic disclosure under IAS 14R and had more room for quality improvement used the introduction of the new standard to improve the quality of their geographic disclosures could be a question for further analysis.

Information about the revenue attribution to geographic locations

IAS 14R required the disclosure of *"segment revenue from external customers by geographic areas based on the geographic location of"* the company's *"customer*[70]*"* (IAS 14R, 69(a)) even if the company's *"primary reporting segment information is geographical segments that are based on location of assets*[71]*"* (IAS 14R, 71). Thus, the disclosed geographic revenue information was comparable between companies because every company needed to disclose its external revenues attributed to different geographic areas based on the location of the customer of the company.

[70] *"where its products are sold or services are rendered"* (IAS 14R, 68(c))
[71] *"where the products are produced or where the service delivery operations are based"* (IAS 14R, 68(b))

Table 6.21 Mean, Standard Deviation, Relative Standard Deviation of the different geographic disclosure quality measures under IAS 14R and IFRS 8

Standard / Quality measure	IAS 14R			IFRS 8			Change in Relative Std.dev. (%)
	Mean	Std.dev.	Relative Std.dev. (%)	Mean	Std.dev.	Relative Std.dev. (%)	
N=155							
Number of reported							
locations	4.08	1.89	46.32	5.04	2.68	53.17	+ 6.85
countries	1.45	1.56	107.59	2.77	2.19	79.06	-28.53
Proportion of revenue (%) reported by							
country	44.45	35.63	80.16	61.52	28.82	46.85	-33.31
ROW	6.22	10.33	166.08	12.00	19.09	159.08	- 7.00
Fineness score							
country weight=3	2.17	0.60	27.65	2.30	0.59	25.65	- 2.00
country weight=4	2.61	0.94	36.02	2.91	0.85	29.21	- 6.81
country weight=8	4.39	2.34	53.30	5.37	1.96	36.50	-16.80
N=126							
Number of reported items	5.49	2.89	52.64	3.95	2.88	72.91	+20.27

Under IFRS 8 companies have a greater degree of the flexibility in deciding how to attribute revenues from external customers to individual countries but the basis for attributing revenues need to be disclosed (IFRS 8, 33(b)[72]). The companies used a variety of bases which were grouped into two bigger categories, namely customer location and origin. (Table 6.22)

Table 6.22 Revenue attribution to individual countries under IFRS 8

Sample size	N=222		N=178		N=155	
	Companies					
Revenue attributed by	**Number**	**%**	**Number**	**%**	**Number**	**%**
Customer location	50	22.52	47	26.40	43	27.74
Destination	22	9.91	22	12.36	21	13.55
Geographic market	6	2.70	5	2.81	5	3.23
Where services performed (product provided, project location)	4	1.80	3	1.69	3	1.94
Location of the first departure / hotel	2	0.90	1	0.56	1	0.65
Customer location _ total	**84**	**37.84**	**78**	**43.82**	**73**	**47.10**
Origin	14	6.31	14	7.87	11	7.10
Location of operation	13	5.86	12	6.74	9	5.81
Sale origin	9	4.05	9	5.06	7	4.52
Location of asset	1	0.45	1	0.56	1	0.65
Location from which billing took place	3	1.35	2	1.12	2	1.29
Origin _ total	**40**	**18.02**	**38**	**21.35**	**30**	**19.35**
Destination & location of operation	2	0.90	2	1.12	2	1.29
Destination & origin	2	0.90	2	1.12	1	0.65
Customer location & origin	4	1.80	4	2.25	3	1.94
Customer location & location of assets	1	0.45	1	0.56	1	0.65
Origin & geo market	1	0.45	1	0.56	1	0.65
Both customer location & origin _ total	**10**	**4.50**	**10**	**5.62**	**8**	**5.16**
Not mentioned	**54**	**24.32**	**52**	**29.21**	**44**	**28.39**
Not applicable	**34**	**15.32**	**0**	**0.00**	**0**	**0.00**
Total	**222**	**100.00**	**178**	**100.00**	**155**	**100.00**

Only about 70% of the sample (N=155) companies disclosed their basis for attributing revenues to individual countries. Most of the disclosing companies (73/(155-44) → 65.77%) attributed revenues on the basis of the location of the customer. (Table 6.22)

Some of the companies argued that *"Due to the nature of the Group's businesses, the origin and destination of revenue is the same."* (e.g. National Express Group Plc, Annual Report and Accounts 2009, p71.; Stagecoach Group Plc, Annual Report and Accounts 2009, p53.) The operation of these companies tightly linked to geographical markets and the services they provide on those markets. Therefore, these companies were grouped into the "location of the customer" category by the researcher.

[72] *"If revenues from external customers attributed to an individual foreign country are material, those revenues shall be disclosed separately. An entity shall disclose the basis for attributing revenues from external customers to individual countries."* (IFRS 8, 33(b))

Table 6.23 Examples of different revenue structures as a result of using different bases for attributing revenues

Panel A

The revenue and profit before taxation are attributable to the Group's one principal activity, the organisation of trade exhibitions, conferences and related activities and can be analysed by geographic segment as follows.

Year ended 30 September 2010	UK & Western Europe £000	Central Asia & Caucasus £000	Russia £000	Eastern & Southern Europe £000	Rest of World £000	Total Group £000
By geographical location of events/activities						
Revenue	8,188	19,622	66,130	15,271	4,336	113,547
Result (excluding share of results of associates)	(13,185)	8,074	30,046	3,978	892	29,805
By origin of sale						
Revenue	48,796	9,179	40,108	13,208	2,256	113,547
Result (excluding share of results of associates)	12,319	2,599	13,768	1,320	(201)	29,805

ITE Group plc, Annual Report and Accounts 2010, p67.

Panel B

	External sales by destination Year to 31 March		External sales by origin Year to 31 March	
	2010 £m	2009 £m	**2010 £m**	2009 £m
United Kingdom	**473**	461	**630**	710
United States	**1 656**	1 598	**1 846**	1 786
Other European countries	**768**	954	**613**	686
Rest of world	**609**	540	**417**	371
Total	**3 506**	3 553	**3 506**	3 553

Tate & Lyle Annual Report 2010, p71.

Panel C

Geographical Segments	Revenue by destination £m	Revenue by origin £m
2009		
United Kingdom	125.1	191.5
Mainland Europe	81.3	29.0
North America	814.4	857.1
Rest of World	60.0	3.2
Total	1,080.8	1,080.8
2008		
United Kingdom	143.2	205.3
Mainland Europe	82.8	28.5
North America	868.2	918.7
Rest of World	61.9	3.6
Total	1,156.1	1,156.1

BBA Aviation Annual Report 2009, p70.

Panel D

Geographical information

	Total sales		Segment net assets		Capital expenditure	
	2009 £'000	2008 £'000	2009 £'000	2008 £'000	2009 £'000	2008 £'000
Analysis by region of operation						
United Kingdom	165,454	182,043	(164,506)	(102,209)	1,323	2,646
Other Europe	183,424	209,007	130,578	104,044	2,827	5,562
Asia	154,830	178,327	50,226	62,775	1,373	10,750
Rest of World	39,690	32,776	11,858	9,503	1,793	2,154
	543,398	602,153	28,156	74,113	7,316	21,112
Goodwill			124,027	154,027		
Net borrowings			(97,646)	(161,448)		
Net assets			54,537	66,692		

	2009 £'000	2008 £'000
Analysis of total sales by destination		
United Kingdom	71,753	84,132
Other Europe	198,053	217,680
Asia	160,123	181,451
Africa and Middle East	63,654	68,898
Rest of World	49,815	49,992
	543,398	602,153

Yule Catto Annual Report 2009, p45.

A few companies (ARM Holdings, AstraZeneca, BBA Aviation, JKX Oil & Gas, Mondi, Reed Elsevier, Tate & Lyle, Yule Catto) used two bases for attributing revenues from external customers to individual countries[73]. (Table 6.23) These companies disclosed their revenues under IAS 14R by using the same bases. It seems that the companies intentionally provide more information about the structure of their geographic revenue. However, the practice of these companies clearly indicates that the use of different bases for attributing revenues to geographic areas can result in completely different geographic revenue structures. For example, the revenue of ITE Group plc. from the UK and Western Europe geographic area is 7.28%[74] of the total revenues if the revenue is attributed by geographic location of events and activities and 42.97%[75] of the total revenues if the revenue is attributed by origin of sale. (see more examples in Table 6.23 and the example of De La Rure earlier in this chapter) Thus, users of financial statements, including researchers, have to be aware of the potential effects of the different bases on the geographic information disclosed by the companies (e.g. non-comparability). This is especially important when high percentage (almost 30%) of the companies did not even mention what kind of basis they used for attributing revenues.

6.5 Discussion and conclusion

This Section attempts to draw out conclusions from the detailed findings of the analysis of the companies' different geographic disclosure measures.

6.5.1 The effects of IFRS 8 on the geographic disclosures

Table 6.24 summarises the main findings of the study on the geographic disclosure quality of the companies. It is not the intention of the researcher to repeat the findings of the whole chapter again. This summary is meant to emphasise that the introduction of IFRS 8 has both positive (e.g. more than 40% of the companies increased the number of their reported individual countries; the companies disclosed significantly higher number of

[73] For these companies the researcher used the attribution that resulted in finer geographic revenue information, measured by fineness score.
[74] 8.188/113.547=7.28%
[75] 48.796/113.547=42.97%

geographic locations and countries under IFRS 8; the companies disclosed significantly higher proportion of their revenues by country etc.) and negative (e.g. the proportion of revenues reported by "ROW" increased; under IFRS 8 the companies disclosed significantly lower number of items by countries etc.) impacts on the geographic disclosure practice / quality of the companies. (Table 6.24) Additionally, the use of broad, vague and highly personalised geographic areas is still a problem. ($RQ_{2.1}$)

These research results suggest that in some aspects the negative impacts of the new standard seems to overcome the positive ones. (Table 6.24). However, whether the positive effects of the new standard on the usefulness of the geographic disclosures outweigh the negative effects of the new standard on the usefulness of geographic disclosures is a subject for further research.

Furthermore, the findings clearly indicate that the companies' geographic disclosure quality cannot be measured / described by only one of the quality measures used in this study (and in other previous studies on geographic disclosure quality). However, the construction of a single quality measure that combines the attributes / dimensions of the different geographic quality proxies might be an interesting and challenging subject for further research.

6.5.2 The impact of different company characteristics on the company's geographic disclosure

Considerable variation was found in the companies' geographic disclosure quality both under IAS 14R and IFRS 8. (see previous sections) The question is what might be the reason behind this diversity. Part of these variations can be explained by the effects of different company characteristics on the companies' geographic disclosure quality. The effect of the different company characteristics on the quality measures of the companies' geographic disclosures is summarised in Table 6.25. ($RQ_{2.2}$)

Table 6.24 Summary: The effects of IFRS 8 on the geographic disclosures

Sample	Positive effects	Negative effects
N=222	the proportion of non-disclosing companies decreased under IFRS 8 from 19.37% to 15.32%	only 56.13% of the sample companies disclosed more or less detailed geographic NCA information
	36.94% of the companies increased the number or their disclosed geographic locations	only 73.42%(50.45%) of the sample companies disclosed domestic revenue (NCA) information
	the proportion of companies providing geographic revenue for at least one individual country increased (62.61% → 79.28%)	32% of the revenue and NCA disclosing companies used different geographic structure for providing revenue and NCA information
	40.54 % of the companies increased the number of their reported individual countries	the geographic region disclosure of the companies is highly "personalised"
		the problem of broad, vague geographic aggregation is still exists
		the use of "ROW" geographic region increased and the disclosure of continents as geographic region decreased
N=155	companies disclosed significantly higher (lower) number of geographic locations and countries (regions) under IFRS 8	the proportion of revenues reported by ROW within the total revenue generated by the sample companies increased (9.379% → 16.70%)
	the proportion of revenues reported by individual countries within the total revenue generated by the sample companies increased (47.97% → 60.32%)	almost a third of the companies (31.61%) decreased the percentage of their total revenues reported by individual countries
	the companies disclosed significantly higher proportion of their revenues by country (44.45% → 61.52%)	the companies disclosed significantly higher proportion of their revenues by ROW (6.22% → 12.00%)
	63.23% of the companies increased the percentage of their total revenues reported by country	the percentage of the companies that do not use ROW category decreased (46.45% → 34.19%)
	the companies disclosed significantly finer (measured by fineness score) geographic revenue information under IFRS 8 (2.17 → 2.31)	49.03% of the companies increased the percentage of their total revenues reported by ROW
	41.94% of the companies increased the fineness of their geographic revenue information	17.42% of the companies decreased the fineness of their geographic revenue information
		most of the companies reported only external revenues and NCA for individual countries
		only 27.74% of the companies disclosed profit measure for the reported individual countries
		the basis for attributing revenues to individual countries was not disclosed by 28.39% of the companies
N=126		under IFRS 8 companies disclosed significantly lower number of items by countries (5.49 → 3.95)
		under IFRS 8 significantly lower percentage of the companies disclosed capital expenditures, profit measure, segment assets and liabilities information

Table 6.25 Summary: The effect of the different company characteristics on the quality of geographic information disclosed by the companies

(YES: significant effect at the 0.05 level[76], +/-: direction of the relationship[77])

N=155 **Company characteristics / Tested hypothesis**	**No. of the reported**			**Revenue % by**		**Fineness score[78]**	**No. of the reported items**
	locations	**countries**	**regions**	**country**	**ROW**		
Categorical company characteristics							
Industry / H_{a10}	**YES**	NO	**YES**	**YES**	NO	NO	**YES**
Auditor / H_{a1}	NO	NO	NO	NO	NO	NO	NO
Single segment / H_{a4}	NO	NO	NO	NO	NO	NO	NO
FTSE 100 / 250 / H_{a4}	**YES**	**YES**	**YES**	NO	NO	NO	NO
Listing status / H_{a11}	NO	NO	NO	NO	NO	NO	NO
US listing / H_{a11}	**YES**	NO	**YES**	NO	NO	NO	NO
Early adopter / H_{a3}	NO	NO	NO	NO	NO	NO	NO
Type of operating segment / H_{a9}	NO	NO	NO	NO	NO	NO	**YES**
Geographic revenue disclosure / H_{a9}	NO	NO	NO	NO	NO	NO	**YES**
Quantitative company characteristics							
Total sales / H_{a4}	NO	NO	NO	NO	NO	NO	NO
Foreign revenue / H_{a11}	**YES (+)**	**YES (+)**	**YES (+)**	**YES (-)**	NO	**YES (-)**	NO
Capital intensity / H_{a2}	NO	NO	**YES (-)**	**YES (+)**	**YES (-)**	**YES (+)**	NO
HHI / H_{a2}	NO	**YES (+)**	NO	NO	NO	NO	NO
Growth rate / H_{a8}	NO	NO	NO	NO	NO	NO	NO
Profitability / H_{a7}	NO	NO	NO	NO	NO	NO	NO
Current ratio / H_{a6}	**YES (+)**	NO	NO	**YES (-)**	NO	NO	**YES (-)**
Gearing / H_{a5}	**YES (+)**	**YES (+)**	NO	NO	NO	NO	NO
No. of foreign countries with subsidiary / H_{a11}	**YES (+)**	NO	**YES (+)**	**YES (-)**	**YES (+)**	**YES (-)**	NO
No. of subsidiaries in foreign countries / H_{a11}	**YES (+)**	NO	**YES (+)**	**YES (-)**	**YES (+)**	**YES (-)**	NO
Effective tax rate / H_{a12}	NO	NO	**YES (+)**	NO	NO	NO	NO
No. of tax haven countries with subsidiaries / H_{a12}	NO	NO	NO	**YES (-)**	NO	**YES (-)**	NO
No. of subsidiaries in tax havens / H_{a12}	**YES (+)**	NO	NO	NO	NO	**YES (-)**	NO

The results indicate that none of the studied company characteristics had significant effect on all of the quality measures. However, industry type, the proportion of foreign revenues in total revenues, capital intensity, the number of foreign countries with subsidiaries and

[76] both for parametric and non-parametric tests

[77] where applicable

[78] YES: if both parametric and non-parametric tests show significant relationship for the three fineness scores calculated (country code=3, 4 and 8)

the number of subsidiaries in foreign countries significantly affect most of the quality measures.

The results suggest that the internationally more visible companies (higher percentage of foreign revenues in total revenues; higher number of foreign countries with subsidiaries; higher number of subsidiaries in foreign countries) report greater number of geographic locations. However, they also tend to report lower percentage of their revenues by countries. Therefore, the fineness of the geographic information provided by them tends to be lower as well. As the number of countries with subsidiaries increases, it may be less likely that (1) a particular country meets the company's materiality threshold and (2) revenues from this country reported individually. On the other hand, the lower quality geographic information (lower percentage of the revenue by country, lower fineness scores) could indicate that internationally more visible companies might prefer to hold back country level information to conceal the company's activity in those countries. This could reduce their political and proprietary costs and hide the management's activity from the shareholders and debt providers (e.g. poorly performing countries, management's empire building plans) (H_{a11})

The preparers' decision to disclose more or less segmental information depends both on the segmental rules and on the management's decision. In determining the level / quality of segment disclosure preparers, among other factors, consider the competition on the market (industry, geographic location) in which they operate. Results from previous studies supported the hypothesis that companies operating more (less) competitive markets have more (less) incentive to disclose segmental information to the market, because there is less (more) competitive harm associated with the information provided. (see more in Section 2.4.4) The results of this study indicate significant positive correlation between the capital intensity and the proportion of revenues reported by countries / the fineness of the geographic information provided by the companies. The higher the capital intensity, the lower the market competition because it is more difficult to enter the market. Thus, the more capital intensive the company (the less competitive the market), the higher the quality of the geographic information it provides. It seems that these results are not in line with the findings of previous research and the findings of the compliance part of this research (Chapter 5). However, previous research focused on the connection between the market competition and the information provided by the companies about their business segments. Whereas, this study focuses on the connection

between market competition and the companies' geographic disclosure quality. One possible explanation of the finding could be that the more capital intensive the business is, the more costly is to set up a new site of business in different geographic locations (companies are protected by the higher entry barriers). Thus, because of the high entry barrier the companies might have less competitors and competitive harm to fear. (H_{a2})

On the other hand, the results in Chapter 5 indicate that companies operating in less competitive environment (higher capital intensity) tend to disclose less commercially sensitive segment information (lower level of compliance with entity-wide disclosure requirements). In summary, the result of this study seems to be inconclusive on the effect of market competition on the companies' segmental disclosure quality (where quality measured by the company's compliance index, the proportion of revenues disclosed by country and the fineness of revenue information provided). However, beside geographic information external revenue from each products and services and from major customers need to be disclosed under entity-wide information. Additionally, the sample analysed in Chapter 6 is only a part of the sample used in Chapter 5. Companies analysed in Chapter 6 are the ones whose domestic and foreign revenues are disclosed under segmental notes. Thus, the compliance level for these companies can be expected to be generally higher.

Although, there is some indication that the companies' tax (avoiding) policy (proxied by the number of tax haven countries with subsidiaries and the number of subsidiaries in tax havens) might have an impact on the companies' geographic disclosure practice / quality (significant negative correlation between the number of tax haven countries with subsidiaries and the fineness score / revenue percentage reported by countries; significant negative correlation between the number of subsidiaries in tax havens and the fineness score) the results are not conclusive. Further research on this subject might find more conclusive results. (H_{a12})

6.5.3 The connection between the companies' geographic disclosure under IAS 14R and IFRS8

> *"Statement 131 did not result in any significant changes in operating or financial reporting practice, nor did it have any significant economic consequences"* (FAF, 2012)

The application of IFRS 8 was expected to change the content of segmental reporting of the companies. The introduction of the management approach aimed to provide those pieces of information to the investors which are used by the company's decision makers. Studies have already found evidence that majority of the companies did not change the number of their reported segments (geographic areas) and many of them used exactly the same segments (geographic areas) under IFRS 8 and IAS 14R. (e.g. Heem and Valenza, 2012; Bugeja et al., 2012; Crawford et al., 2012a; Nichols et al., 2012; Pisano and Landriana, 2012; Kang and Gray, 2013) These results are in line with the findings of US studies on the impacts of the introduction of SFAS 131. For example, after the introduction of SFAS 131 Tsakumis et al. (2006) analysed the geographic disclosures of a sample of 115 Fortune 500 US companies. The authors found evidence that companies disclosing a higher percentage of revenues by country under SFAS 14 disclosed a higher percentage of revenues under SFAS 131 as well.

The above mentioned research results indicate that companies stick with their *"disclosure position"*. This suggests that the companies either (1) have already reported segmental information to stakeholders "through the eye of the management" under IAS 14R (Heem and Valenza, 2012; Nichols et al, 2013); (2) they simple kept the same segmentation under the new standard in order to reduce any incremental costs associated with changes to the preparation of the financial statements of the company under the new standard (King and Gray, 2013) or (3) the companies have already provided optimal segmental disclosure (disclosure of disaggregated information for efficient resource allocation by financial statement users and the cost of revealing proprietary information to competitors and / or potential entrants) under IAS 14R. (Schneider and Scholze, 2011) This latest suggestion is in line with the theoretical explanation provided by Gibbins et al. (1990). They argue that the companies' disclosure position is relatively stable and can be explained by ritualism (the application of formal and informal rules, procedures, and standards by the management) and opportunism (management seeks company-specific advantage in the disclosure of particular information). Thus, the management only changes the company's disclosure if it is advantageous for the company (opportunism).

Companies apply different strategies with regard to their geographic disclosures (aggregation, details etc.). If the company did not change its disclosure strategy then the company's geographic reporting practice under IAS 14R and under IFRS 8 could be very similar even if the company complies with the requirements of the new standard.

Table 6.26 Pearson correlation coefficients between the different quality measures of geographic disclosure under IAS 14R and IFRS 8

Correlations

		Number of geo locations reported _ IAS 14	Number of geo locations reported _ IFRS8	Individual country reported _ IAS 14	Individual country reported _ IFRS8	Number of regions reported _ IAS 14	Number of regions reported _ IFRS 8	Revenue % provided by country _ IAS14	Revenue % provided by country _ IFRS8	ROWrevenue IAS14	ROWrevenue IFRS8	Fineness score _ IAS14 _3	Fineness score _ IFRS8 _3	Fineness score _ IAS14_4	Fineness score _ IFRS8 _4	Fineness score _ IAS14_8	Fineness score _ IFRS8 _8
Number of geo locations reported _ IAS 14	Pearson Correlation	1	.678**	.701**	.491**	.579**	.525**	-.061	-.103	-.145	-.084	.034	.009	-.001	-.029	-.038	-.073
	Sig. (2-tailed)		.000	.000	.000	.000	.000	.453	.201	.072	.298	.674	.916	.988	.718	.643	.364
	N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
Number of geo locations reported _ IFRS8	Pearson Correlation	**.678****	1	.424**	.849**	.452**	.581**	-.216**	.038	-.162*	-.290**	-.107	.197*	-.151	.151	-.192*	.087
	Sig. (2-tailed)	**.000**		.000	.000	.000	.000	.007	.643	.044	.000	.185	.014	.060	.062	.017	.281
	N	**155**	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
Individual country reported _ IAS 14	Pearson Correlation	.701**	.424**	1	.527**	-.175*	-.012	.491**	.287**	-.145	-.250**	.476**	.348**	.494**	.341**	.497**	.316**
	Sig. (2-tailed)	.000	.000		.000	.029	.886	.000	.000	.071	.002	.000	.000	.000	.000	.000	.000
	N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
Individual country reported _ IFRS8	Pearson Correlation	.491**	.849**	**.527****	1	.075	.062	-.022	.328**	-.144	-.139	.031	.295**	.011	.318**	-.009	.330**
	Sig. (2-tailed)	.000	.000	**.000**		.354	.442	.787	.000	.073	.085	.704	.000	.888	.000	.914	.000
	N	155	155	**155**	155	155	155	155	155	155	155	155	155	155	155	155	155
Number of regions reported _ IAS 14	Pearson Correlation	.579**	.452**	-.175*	.075	1	.738**	-.645**	-.470**	-.034	.170*	-.497**	-.386**	-.566**	-.430**	-.619**	-.462**
	Sig. (2-tailed)	.000	.000	.029	.354		.000	.000	.000	.676	.035	.000	.000	.000	.000	.000	.000
	N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
Number of regions reported _ IFRS 8	Pearson Correlation	.525**	.581**	-.012	.062	**.738****	1	-.374**	-.435**	-.083	-.334**	-.249**	-.082	-.303**	-.205*	-.349**	-.344**
	Sig. (2-tailed)	.000	.000	.886	.442	**.000**		.000	.000	.303	.000	.002	.311	.000	.010	.000	.000
	N	155	155	155	155	**155**	155	155	155	155	155	155	155	155	155	155	155
Revenue % provided by country _ IAS14	Pearson Correlation	-.061	-.216**	.491**	-.022	-.645**	-.374**	1	.655**	-.258**	-.392**	.899**	.652**	.959**	.679**	.994**	.678**
	Sig. (2-tailed)	.453	.007	.000	.787	.000	.000		.000	.001	.000	.000	.000	.000	.000	.000	.000
	N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
Revenue % provided by country _ IFRS8	Pearson Correlation	-.103	.038	.287**	.328**	-.470**	-.435**	**.655****	1	-.240**	-.336**	.599**	.829**	.634**	.921**	.653**	.986**
	Sig. (2-tailed)	.201	.643	.000	.000	.000	.000	**.000**		.003	.000	.000	.000	.000	.000	.000	.000
	N	155	155	155	155	155	155	**155**	155	155	155	155	155	155	155	155	155
ROWrevenueIAS14	Pearson Correlation	-.145	-.162*	-.145	-.144	-.034	-.083	-.258**	-.240**	1	.345**	-.439**	-.317**	-.381**	-.303**	-.309**	-.272**
	Sig. (2-tailed)	.072	.044	.071	.073	.676	.303	.001	.003		.000	.000	.000	.000	.000	.000	.001
	N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
ROWrevenueIFRS8	Pearson Correlation	-.084	-.290**	-.250**	-.139	.170*	-.334**	-.392**	-.336**	**.345****	1	-.421**	-.747**	-.420**	-.636**	-.407**	-.472**
	Sig. (2-tailed)	.298	.000	.002	.085	.035	.000	.000	.000	**.000**		.000	.000	.000	.000	.000	.000
	N	155	155	155	155	155	155	155	155	**155**	155	155	155	155	155	155	155
Fineness score _ IAS14 _ 3	Pearson Correlation	.034	-.107	.476**	.031	-.497**	-.249**	.899**	.599**	-.439**	-.421**	1	.680**	.986**	.679**	.943**	.645**
	Sig. (2-tailed)	.674	.185	.000	.704	.000	.002	.000	.000	.000	.000		.000	.000	.000	.000	.000
	N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
Fineness score _ IFRS8 _3	Pearson Correlation	.009	.197*	.348**	.295**	-.386**	-.082	.652**	.829**	-.317**	-.747**	**.680****	1	.686**	.982**	.672**	.912**
	Sig. (2-tailed)	.916	.014	.000	.000	.000	.311	.000	.000	.000	.000	**.000**		.000	.000	.000	.000
	N	155	155	155	155	155	155	155	155	155	155	**155**	155	155	155	155	155
Fineness score _ IAS14_4	Pearson Correlation	-.001	-.151	.494**	.011	-.566**	-.303**	.959**	.634**	-.381**	-.420**	.986**	.686**	1	.696**	.985**	.674**
	Sig. (2-tailed)	.988	.060	.000	.888	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000
	N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
Fineness score _ IFRS8 _4	Pearson Correlation	-.029	.151	.341**	.318**	-.430**	-.205*	.679**	.921**	-.303**	-.636**	.679**	.982**	**.696****	1	.692**	.973**
	Sig. (2-tailed)	.718	.062	.000	.000	.000	.010	.000	.000	.000	.000	.000	.000	**.000**		.000	.000
	N	155	155	155	155	155	155	155	155	155	155	155	155	**155**	155	155	155
Fineness score _ IAS14_8	Pearson Correlation	-.038	-.192*	.497**	-.009	-.619**	-.349**	.994**	.653**	-.309**	-.407**	.943**	.672**	.985**	.692**	1	.683**
	Sig. (2-tailed)	.643	.017	.000	.914	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000
	N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
Fineness score _ IFRS8 _8	Pearson Correlation	-.073	.087	.316**	.330**	-.462**	-.344**	.678**	.986**	-.272**	-.472**	.645**	.912**	.674**	.973**	**.683****	1
	Sig. (2-tailed)	.364	.281	.000	.000	.000	.000	.000	.000	.001	.000	.000	.000	.000	.000	**.000**	
	N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	**155**	155

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

The results from this study indicate that a high proportion of the sample companies did not change or did not change significantly their geographic disclosure practice under the new standard. (see e.g. Table 6.9, Table 6.18) For example, 40% of the companies had exactly the same fineness score under IAS 14R and IFRS 8. Furthermore, even if a company changed its reporting practice the change did not necessarily improve the company's disclosure quality. For example, more than 10% of the companies decreased the fineness of its geographic disclosures.

Additionally, Pearson correlation coefficients[79] indicate significant positive correlation between the different quality measures of geographic disclosures under IAS 14R and IFRS 8. Thus, companies disclosing higher (poorer) quality geographic disclosure under IAS 14R continue to do so under IFRS 8.

In summary, this study provides additional evidences that the companies' geographic disclosure practice / quality under IAS 14R significantly affects the companies' disclosure practice / quality under IFRS8. (Table 6.26) This result seems to indicate that it is not in the interest of a relatively high percentage of the sample companies to change geographic disclosure practice and provide better quality geographic information (opportunism).

[79] see Kendall's tau and Spearman's rho in Appendix C. 29 and Appendix C. 30

Chapter 7 Application of the materiality concept: The case of the disclosure of individually material countries

7.1 Introduction

Geographic information disaggregated to country-level is more useful and relevant than information provided for geographic regions[80]. Prior research shows evidence that the predicative ability of geographic information increases when more disaggregated information disclosed by the companies (e.g. Ahadiat, 1993; Herrmann, 1996; Behn et al., 2002) (see more in Section 2.4.5) Additionally, in the last decade there have been calls from civil societies (e.g. Richard Murphy and the TJN, 2010; the PWYP coalition, 2005 and 2010), regulatory bodies (e.g. US Congress, 2010: Dodd-Frank Wall Street Reform Act.; US Congress, 2013: proposal of the Cut the Unjustified Tax Loopholes Act.; EP, 2013b and 2013c: Transparency, Accounting and Capital Requirements Directives) and from international economic organisations (e.g. OECD, 2013a: Action Plan on Base Erosion and Profit Shifting) to require MNCs to disclose information about their activities in specific countries where they operate. (see more in Section Chapter 8)

Both SFAS 131 and IFRS 8 require the separate disclosures of individually material countries. The materiality decision made by preparers affects the number of countries identified and reported individually and impacts on the aggregation and fineness of the geographic disclosures of the companies.

Although research results indicate that the use of broad, vague geographic grouping still continued under SFAS 131 and IFRS 8 (e.g. SFAS 131: Herrmann and Thomas, 2000; Nichols, et al., 2000; Doupnik and Seese, 2001; IFRS 8: Aleksanyan and Danbolt, 2012; Nichols et al., 2012), the introduction of these standards resulted in more country-level disclosure, greater disaggregation and finer geographic information (e.g. SFAS 131: Herrmann and Thomas, 2000; Nichols et al., 2000; Doupnik and Seese, 2001; Hope, 2008; IFRS 8: Nichols et al., 2012; Crawford et al., 2012a; Mardini et al., 2012; Aleksanyan and Danbolt, 2012; Pardal and Morais, 2011). (see more in Section 2.4.2)

This study provides empirical evidence to demonstrate how a sample UK listed companies have applied the materiality concept in defining their individually material

[80] any grouping of individual coutrties such as sub-continent, continent, multi-continent, emerging markets, foreign, ROW etc.

countries. The effects of different company characteristics on the companies' materiality decision are also examined.

The method applied by Doupnik and Seese (2001) is followed to measure the quantitative materiality threshold used by the companies. However, to provide a more complete picture, in addition to examining the companies' geographic revenue disclosures this study also examines the companies' geographic asset disclosures.

The IASB has recently announced plans to consider a project on materiality (IASB, 2013a), as a follow on to its survey (2012) and public discussion forum (2013) on financial reporting disclosures and evidence gathered from other professional body publications (e.g. FRC, EFRAG, IAASB, ICAS, NZICA, ESMA). This part of the research can help the IASB's work on the application of materiality concept. Concerns with the application of the materiality concept call for *"research relevant to the IASB's development of further guidance on materiality"* which *"could contribute to promoting the quality of financial reporting and avoiding boilerplate, irrelevant disclosures."* (Nichols et al., 2013, p303)

In this chapter literature from the 60's, 70's and 80's is intentionally used and contrasted with more recent literature to emphasize that although time has passed, the application of materiality concept has remained an "unsolved issue".

7.2 Regulatory background and Literature Review

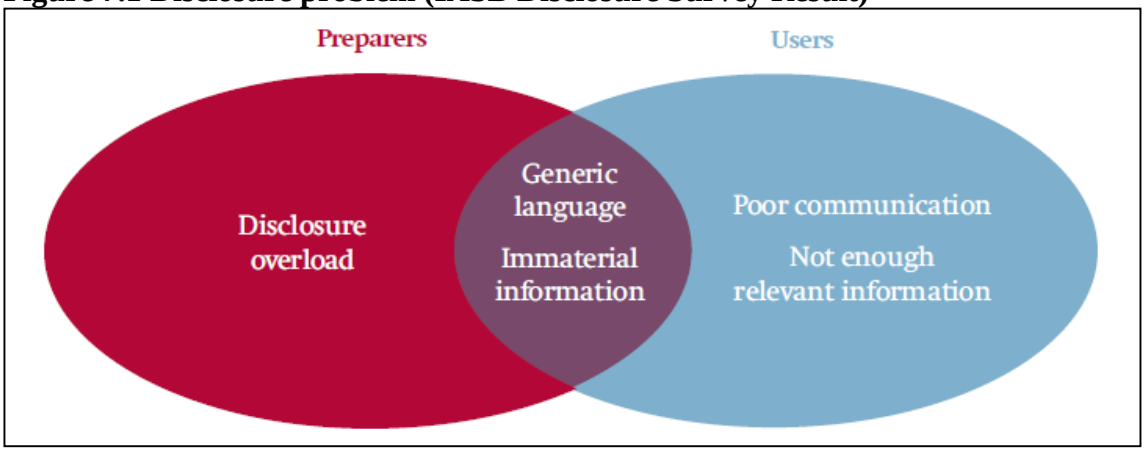
7.2.1 Disclosure problem and the application of the materiality concept

> *"Without such a rule* [materiality concept], *unwarranted amounts of time would almost certainly be spent on insignificant matters, and financial statements would undoubtedly be cluttered with useless or unimportant information, obscuring the necessary and important facts and relationships they are intended to convey."* (Hicks, 1964, p158)
>
> *"...the presentation of significant data intermixed with insignificant data can also be misleading. Hence to make the information not misleading, items which do not matter need no separate disclosure." ... "... they* [SEC] *are concerned with the possibility that the reader of financial statements will be swamped with unimportant information which may be indiscriminately commingled with significant information."* (Bernstein, 1967, p87 and p88)

> *"For many companies, the size of their annual report is ballooning. The amount of useful information contained within those disclosures has not necessarily been increasing at the same rate." ... "After all, no CFO has ever been sacked for producing voluminous disclosure, while restatements may be career-limiting. Moreover, excessive disclosures can even be very handy for burying unpleasant, yet very relevant information!"* (Hoogervorst, 2013)

Over the years disclosures in the notes have expanded and resulted in financial statements being filled with immaterial information that can obscure relevant information. The IASB carried out a survey (December 2012) and hosted a public discussion forum (28 January 2013) on financial reporting disclosures. Most of the respondents agree that there is a disclosure problem. However, it is not surprising that the preparers and the users view the problem differently. The preparers feel that the disclosure requirements of the different standards are too extensive and more should be done to exclude immaterial information from the financial statements to reduce disclosure overload and the cost of financial reporting. Users, on the other hand feel that the communication of the relevant information needs to be improved, because the financial reports are not providing the information that they need (too much trivial information but not enough information on critical issues). (Figure 7.1) (IASB, 2013a; Hoogervorst, 2013)

Figure 7.1 Disclosure problem (IASB Disclosure Survey Result)



Source: IASB, Feedback Statement: Financial Reporting Disclosure, May 2013, p36

> *"... material improvements will require behavioural change to ensure that financial statements are regarded as tools of communication rather than compliance. That means addressing the root causes of why preparers may err on the side of caution and 'kitchen-sink' their disclosures."* (Hoogervorst, 2013)

It is argued that financial statements are rather compliance than communication documents and they are full of boilerplate and immaterial information. Many preparers, auditors and regulators apply the cautious compliance (checklist, tick box) approach and treat the different IFRSs as a list of requirements. The use of compliance approach can result in a lack of professional judgements when determining whether information is material or not for the particular entity. (ESMA, 2013; IASB, 2013a; Hoogervorst, 2013)

> *"... we must isolate from among many problem areas revealed by practice those whose definition and resolution would make the greatest relative contribution to the furthering of better accounting. Recently concluded research clearly indicates that the concept of materiality is such a problem area."* (Bernstein, 1967, p86)
>
> *"... materiality operates at the site of truth games about making visible, controlling, taming, managing or hiding errors and subjectivities in the translation of accounting inscriptions."* (Edgley, 2014, p268)

Several professional bodies (e.g. FRC, EFRAG, IAASB, ICAS, NZICA, ESMA) highlighted that more emphasis should be given to the application of the concept of materiality in financial reporting. If an item is required by an accounting standard that does not necessarily mean that the particular item is material for the reporting entity. It is suggested that if the concept of materiality is applied properly then immaterial information, details that obscure information and are not relevant to users would be removed from the disclosures of financial reporting. On the other hand, the appropriate application of the materiality concept could also ensure that relevant information would not be omitted or mis-stated. (IASB, 2013a; ESMA, 2013)

ESMA (2013) emphasised in its report that there is a need for education material or for more guidance for the consistent application of the materiality concept from a disclosure perspective. The guidance could be applied by the preparers to determine whether particular requirements of the different accounting standards are relevant to the entity or not. The proper application of the materiality concept could solve the disclosure problem as it could reduce the disclosure burden on the preparers and the information overload in the financial statements. Thus, relevant, entity specific information in the financial statements would not be buried by irrelevant information. (ESMA, 2011 and 2013; EFRAG, 2012; IASB, 2013a)

Based on the results of the IASB survey, the public hearing and the work performed by ESMA in relation to materiality the IASB is going to consider a project on materiality. The project would assess how materiality is applied in practice and whether the IASB should develop a general application guidance or educational material on materiality, *"but avoiding anything that could become a checklist"*. (Mackintosh, 2013, p11; IASB, 2013a; Hoogervorst, 2013) IASB Chair Hans Hoogervorst (2013) listed an additional seven short-term options to encourage the behavioural change of preparers, auditor, regulators and users to make financial reporting more effective. The following four of these suggestions are directly related to materiality:

1. The materiality principle means not only that material items should be included, but also means that non-material items should be excluded from the companies' financial statements and notes. This needs to be made clear in IAS 1.
2. It is suggested that the IASB should clarify that a materiality assessment applies to the whole financial statements, including the notes. Thus, if an item is immaterial that should not be disclosed anywhere at all in the financial statements.
3. Hoogervorst suggested that the IASB should clarify that if a standard is relevant to the financial statements of an entity, it does not automatically mean that every disclosure requirements of that standard provides material information.
4. When developing new Standards the IASB will use less prescriptive wording for disclosure requirements. This approach will create more room for professional judgment on materiality.

However, the appropriate application of the materiality concept alone will not solve the entire disclosure problem. To decide whether a piece of information is material or not preparers still have to collect the data (expenses). Additionally, the simple removal of immaterial information from the financial statements will not necessarily make the remaining part of the reports more readable and useful for the financial statement users. (Hitchins, 2013, p1)

7.2.2 Defining materiality: Material versus Immaterial

> *"The question of what is material has puzzled a great many people over a great many years, yet nobody is prepared to define it so that it does not ultimately rest on someone's judgements."* (Blought, 1949, p13 in Hicks,1964)

Studies summarised and compared the accounting, legal and stock exchange definition of materiality (e.g. Brennan and Gray, 2005; Messier et al., 2005; Edgley, 2014). However, Brennan and Gray (2005) argue that none of the sources (general legal background, professional accounting and stock exchange requirements) provides a precise definition of materiality.

Materiality is a key accounting concept which is deeply ingrained in financial reporting. (Hofstedt and Hughes, 1977) It has long been discussed by professionals and researchers. More than six decades have passed since in 1949 Blough wrote about materiality. However, the quotation still accurately describes the accounting profession's position on materiality. (Rose et al., 1970)

In a recent study Edgley (2014) argues that materiality is not a term, with a core meaning. The author rather suggests that accounting materiality is a multiplicity of the following knowledge objects: a social responsibility (materiality is a moral responsibility to protect investors, p260); a solution to the problem of over-auditing (materiality is part of commercial knowledge and it solves the problem of over-auditing through a cost / benefit solution, p262); a solid foundation for auditing (materiality is expert knowledge, solid object, technique, p263); a tolerable error (materiality is an acceptable level of error in reporting, p264); a rule-of-thumb (materiality generally positioned within a range of 5-10% of net income, p264); a risk management process (materiality is a risk management technique that reduces uncertainty and audit risk, p266); and a mysterious professional lens and shield (materiality is a protective shield and a shooting target, p266). (Edgley, 2014)

The IASB defines that *"Information is material if omitting it or misstating it could influence decisions that users make on the basis of financial information about a specific reporting entity."* (IASB, 2010d The Conceptual Framework: QC11, p17) and makes several references to the application of the materiality concept in different IASs and IFRSs (see a summary of "IFRS references to materiality and users of financial statements" in the ESMA Consultation Paper, Consideration of materiality in financial reporting, 2011).

> *"In essence, "materiality" means simply this: if it doesn't really matter, don't bother with it."* (Hicks, 1964, p158)

> *"The materiality concept states that not all financial information need or should be communicated in accounting reports – only material information should be transmitted. Immaterial information may and probably should be omitted."* (Rose *et. al,* 1970, p138)
> "*Materiality defines the threshold between the important and the trivial."* (Heitzman et al., 2010, p111)

IFRS disclosure requirements do not need to be applied to information that is not material. However, there are no practical guidelines to help the preparers to apply the materiality threshold. Beside the general materiality definition it is tempting to have a quantitative materiality threshold (e.g. 5% or 10% of the net income, revenue) to make materiality decisions easier and less subjective. Materiality is entity-specific, and needs to be judged in the context of an entity's financial report. Therefore, a uniform quantitative threshold cannot be specified. Only in very limited cases does the IASB provide quantitative guidance in specific standards on how to determine what material is.

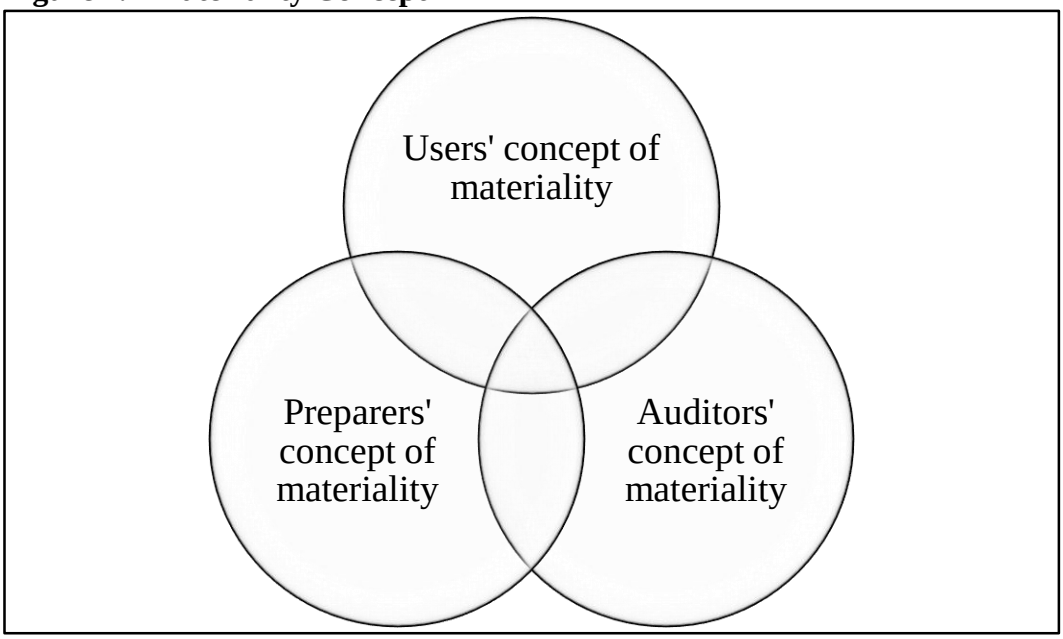
> *"In a profession where objectivity is a consideration of cardinal importance, materiality seems to be its "Achilles' Heel"."* (Bernstein, 1967, p90)
> *"While professional competence has many determinants, the exercise of professionalism is often most evident when the professional – doctor, lawyer, accountant – is confronted with a vast array of disparate information – a medical history, a legal brief or a prospectus for new issue – and "processes" that information into a professional judgment – the patient has leukaemia, the client should "cop a plea" or the financial statements present fairly. ... All such scenarios have in common the reliance upon the informed judgement of the professional in the face of complex and often conflicting information."* (Hofstedt and Hughes, 1977, p380)

Materiality is not an objective measure. The concept of materiality requires the interpretation of particular circumstances and the exercise of professional judgement. The question is: "Who makes the materiality judgements?" Only those who know the facts can make materiality decisions. It is the management's responsibility to make all the decisions, including materiality judgment, when preparing the company's financial statements. The judgement of the management about materiality should depend on the relevance of information to assessment of the company's financial performance, position and adaptability. Thus, in considering materiality the preparers are expected to focus on information that could influence the economic decisions of the users. (Hicks, 1964, Morris et al., 1984; Seese and Doupnik, 2003; ESMA, 2011 and 2013; IASB, 2010d)

> *"... materiality, like beauty, is in the eye of the beholder."* (Hicks, 1964, p159)

Preparers, auditors and users[81] of financial statements are all concerned with materiality decisions and are all important in making materiality judgements. However, there can be asymmetry (between preparers and auditors, preparers and users, auditors and users) of and differences (based on different decision contexts, objectives, relevant factors, factor weights and decision models used) between the materiality judgements of these groups. (Figure 7.2) (Boatsman and Robertson, 1974; Pattillo, 1976 in Morris et al., 1984; Morris et al, 1984; Lo, 2010)

Figure 7.2 Materiality Concept



Preparers try to make their materiality judgement from the users' perspective. To be able to do so they have to answer the question as to what financial statement users consider material. Morris et al. (1984) argue that because of the diversity of the financial statement users and the limited knowledge of the decision models they use, the preparers (including auditors) are not able to make materiality decisions from the users' perspective. Instead, they make their own materiality judgments based on their own objectives, decision models, factors and factor weights.

[81] occasionally the legal profession

7.2.3 Quantitative versus Qualitative factors

> *"Magnitude by itself, without regard to the nature of the item and the circumstances in which the judgement has to be made, will not generally be a sufficient basis for a materiality judgement."* (SEC, SAB No. 99, 1999)

As a general rule, companies must disclose material information in their financial statements. The type of factors that could influence the materiality decisions are for example the followings: magnitude and financial effect of an item (monetary amount or percentage) or cumulative effects of individually immaterial items; the nature of the item (e.g. misstatement that changes a loss into profit or vice versa, item that effects the company's compliance with regulatory requirements, the possibility of breaching the loan covenants, fines, penalties, improper depreciation etc.[82]); risks, uncertainty and other circumstances surrounding the item; external auditors, accountants and accounting policies of the company; characteristics of the company (e.g. corporate governance, incentives of the managements); environmental factors (e.g. industry, general economic and political conditions) etc.. Some of the factors can be the subject of quantification in financial terms (e.g. the magnitude of the item) but many of the factors require qualitative considerations and cannot be mathematically expressed (e.g. the nature of the item). (FASB, 1975; SEC, SAB No. 99, 1999; ICAEW Tech 03/08, 2008; AASB 1031, 2010; Eilifsen and Messier, 2013) When defining a materiality threshold both quantitative and qualitative aspects need to be considered. However, the considerable factors and their weight are not specified. Every one of the factors or more than one factor could be the determining factor. (AASB 1031, 2010)

Previous research on materiality indicates that materiality decisions are often based on a percentage figure of Statement of Financial Position or Income Statement items. (e.g. Boatsman and Robertson, 1974; Steinbart, 1987; Chewning and Higgs, 2000; Brennan and Gray, 2005; Iyer and Whitecotton, 2008; Vance, 2011; Libby and Brown, 2013) In the absence of general materiality standards and authorative guidelines on materiality the profession created its own unwritten but consistently used quantitative materiality benchmarks (rule-of-thumb) to assist decision making. (e.g. Jennings et al., 2001; Gleason and Mills, 2002, Iyer and Whitecotton, 2008; Vance, 2011; Eilifsen and Messier,

[82] see lists of considerable items in e.g. SEC, SAB No.99, 1999; ICAEW Tech 03/08, 2008; AASB 1031, 2010

2013; Edgley, 2014) These "rules" however lack of authority. They are conventions of practice.

Studies found that the most important factor to distinguish material from immaterial is the percentage of the item to the net income. (e.g. Frishkoff, 1970; Woolsey, 1973; Boatsman and Robertson, 1974; Pattillo, 1976 in Morris et al., 1984; Moriarty and Barron, 1979; Holstrum and Messier, 1982; Morris et al., 1984; Jennings et al., 1987; Vance, 2011; Eilifsen and Messier, 2013) It can be argued that reasonable investors should not be influenced by a misstatement, omission of a financial statement item which is 5% or less that the net income. (Iyer and Whitecotton, 2008)

Vance (2011) quantitatively integrated the findings of 42 prior studies on materiality by using meta-analysis. All these studies measured materiality as a percentage of net income. Vance (2011) found a considerable degree of variability in materiality decisions (materiality threshold ranging from 0.44% of net income to 54.65% of net income). He found that the overall mean was 8.52% and 66.7% of the materiality thresholds were above the 5% of net income "rule-of-thumb".

The overreliance on quantitative materiality threshold might result in the discounting of qualitative materiality factors. (Bernardi and Pincus, 1996) SAB No.99 in the US, ICAEW Tech 03/08 in the UK and AASB 1031 in Australia are among the documents[83] that give examples of cases in which qualitative factors make quantitatively immaterial information material. Additionally, research provides empirical evidence that in certain cases investors care about information even if the information does not have quantitatively material impact on the company's financial statements (e.g. Shafer, 2004) and qualitative factors influence materiality judgements (e.g. Iyer and Whitecotton, 2008, Acito et al., 2009). Thus, materiality cannot be *"reduced to a number formula"* (SEC, SAB No. 99, 1999) and an overall quantitative materiality threshold that can be applied by every company, all the time, for all transactions, balances and disclosures cannot be defined.

However, for example a relatively new accounting standard, AASB 1031 "Materiality" issued by the Australian Accounting Standard Board in 2010 and effective from 1 January

[83] stock exchange regulation, professional guidance, accounting standard

2011, sets general quantitative thresholds that may be used by the preparers as guidance in considering the materiality of the financial amount of an item. According to AASB 1031 15 (a) and (b) an amount is presumed to be material (immaterial) if it is equal or greater (less) than 10 (5) percent of the appropriate base amount unless there is evidence or convincing argument to the contrary. The standard also defines the appropriate bases (AASB 1031:13) such as the recorded amount of equity, the appropriate asset or liability class total, profit or loss, the appropriate income or expense amount for the current period or an average of them for a number of reporting periods, net cash or average net cash provided by or used in the operating, investing, financing and other activities. The general quantitative threshold in the standard seems to be in line with the quantitative benchmarks otherwise used by the profession as a rule-of-thumb.

7.2.4 General standard or guidance on materiality versus disclosure of the applied materiality judgements / policies

> *"Communication about materiality judgement among preparers and users appears either to have broken down or never to have efficiently existed."* (Rosen, 1981 in Jennings et. al., 1996, p62)

It is difficult and sometimes almost impossible for the users to assess whether the non-disclosure of a required item is a non-compliance with the standard (omission of disclosure) or the item is immaterial and the company simply tries to avoid information overload by only disclosing material items. (Brennan and Gray, 2005; Tsalavoutas, 2011; Crawford et al., 2012a) (see more in Section 5.6) Additionally, many items, which are not individually required by IFRSs, are only disclosed because preparers need to disclose material information and not because they have incentives and want to provide voluntary information. (Heitzman et al., 2010)

Research results indicate that there appears to be little consistency of understanding of the materiality concept between different groups and even within groups. As a result, there is considerably diversity in materiality judgements in practice. Financial statement users receive information judged to be material by preparers and auditors but they do not have information how the materiality judgments were made. (Morris et.al, 1984) The undefined nature of the materiality concept (Bernstein, 1967) and the secrecy about its application *("accounting's best kept secret"*, Brennan and Gray, 2005) provide flexibility

and leeway for the preparers and shield their materiality judgements from the users. (Bernstein, 1967; Lee, 2004; Brennan and Gray, 2005) In order to understand and appropriately interpret the information in the Financial Statements the users need to know the materiality guidelines applied and the different quantitative and qualitative factors considered by preparers and auditors in assessing the materiality of an item.

> *"No reasonable accountant advocates setting or thinks it is possible to set a standard for judging materiality which automatically gives a final and correct answer" … "Instead, an accountant must always exercise judgement in making a final materiality decision. But a standard should be available to help him exercise that judgment more effectively."* (Woolsey, 1973, p47)

Standard setters have never developed a standard or general guideline on materiality. Although, the FASB considered issuing a general materiality standard (FASB, 1975) the Board eventually removed the topic from its agenda. The FASB concluded that it would not attempt to develop a standard on materiality, stating, *"The Board's present position is that no general standards of materiality could be formulated to take into account all the considerations that enter into an experienced human judgment.*[84]*"* (FASB, SFAC No.2, 1980, p3)

Many researchers and professionals called for establishing a uniform materiality standard (Bernstein, 1967; Woolsey, 1973; Jennings et al., 2001) or at least specific materiality guidelines (Morris et al., 1984; Ng and Tan, 2007; EFRAG, 2012; ESMA, 2013; Hoogervorst, 20013). It is argued that in the absence of materiality standard / guidelines decisions of professionals (preparers, auditors, legal professionals) on materiality may lack of uniformity and consistency. (Bernstein, 1967; Morris et al., 1984; Jennings et al., 1987; Ng and Tan, 2007; ESMA, 2013; Hoogervorst, 2013) A standard or guidelines on materiality would help preparers, auditors, legal professionals to exercise professional judgement (Berstein, 1967; Woolsey, 1973), would facilitate comparability (Bernstein, 1967; Morris et al., 1984; Jennings et al., 1987), would enhance the financial statement users' understanding of the materiality concept (Woolsey, 1973; Morris et al., 1984) and could help to avoid any disagreement between the preparers and auditors (Woolsey, 1973). It is also argued that even if a materiality standard cannot meet the requirements of all of its users that still could provide a good starting point. (Jennings et al., 2001)

[84] *"Quantitative materiality criteria may be given by the Board in specific standards in the future, as in the past, as appropriate."* (FASB, SFAC No.2, 1980, p3)

> *"The materiality function of an item is, in general, not monotone. Therefore, no unique, fixed materiality standard for an item can exist even for a given user if the standard is stated as a magnitude of the item. Thus the derivation of a unique, fixed materiality standard relevant to all users is not feasible."* (Ro, 1982, p407)

Materiality decisions need to be based on both quantitative and qualitative factors. Opponents of a uniform materiality standard argue that any attempt to develop an extensive list of the possible factors that could influence materiality decisions would fail. Any list would be incomplete and would be in need of constant change. (Hicks, 1964; Moriarty and Barron, 1979; FASB, 1980; ESMA, 2013) Additionally, it would question the role of professional judgment in the decision making process. (Moriarty and Barron, 1979)

In the absence of a materiality standard and guidance issued by standard setters accounting and auditing professional bodies (e.g. Institute of Chartered Accountants in England and Wales, ICAEW) issued general guidelines on materiality for determining whether a particular item is material or not. Although, these guidelines usually provide several examples of considerable qualitative factors the list of these examples is not claimed to be exhaustive (e.g. *"examples of such items include..."*, *"Further examples of qualitative items would include...",* ICAEW Tech 03/08:25, 2008) Additionally, the guidelines do not provide "bright-line" quantitative rules. (ICAEW Tec 03/08, 2008; Acito et al., 2009;)

Auditing companies also developed their in-house guidance for setting materiality thresholds. (Bernardi and Pincus, 1996; Eilifsen and Messier, 2013) Eilifsen and Messier (2013) examined the materiality guidance of eight large US auditing companies and found consistency across the companies in terms of the quantitative benchmarks, percentages used and in terms of evaluating qualitative factors. Thus, at least the auditors have more or less consistent guidelines when assessing materiality. It can be assumed that this consistency across the companies' materiality guidelines eventually will result in greater consistency in the auditors' materiality judgements as well.

The Financial Reporting Faculty of ICAEW suggested to preparers in its "Guidance on materiality in financial reporting by UK entities" to formally document their principles, policies, guidelines and main decisions on materiality for their own purposes (e.g. dealing

with FRRP). (ICAEW, Tech 03/08, 2008) It can be argued that the way how a reporting company applies the materiality concept is part of the company's significant accounting policies. Therefore, according to IAS 1 it should be disclosed in the company's notes to the financial statements. (Morris et.al., 1984) and it should be available for the financial statement users as well.

More transparency on the companies' approach to materiality decision makes financial statements more understandable and useful (because it facilitates comparability and enhances understanding of the limitations of information in financial statements) for financial statement users in their decision making. (e.g. Morris et. al., 1984; Robinson and Fertuck, 1985; De Martinis and Burrowes, 1996; Brennan and Gray, 2005) It also can reduce the users' confusion over the disclosures in the financial statements (e.g. non-compliance or just not material item, voluntary disclosure or material item) (e.g. De Martinis and Burrowes, 1996; Jennings et al., 2001), the litigation risks (e.g. Jennings et.al., 1996), the unreasonable audit expectations of the users (e.g. De Martinis and Burrowes, 1996) and eventually it can reduce the communication gap between the preparers, auditors and users of financial statements (e.g. Morris et. al, 1984; Leslie, 1985 in Jennings et al., 1996).

> *"More important than establishing a general guideline, however is the necessity for disclosing the materiality criteria used by reporting firms."* (Morris et. al, 1984, p554)
> *"Management have incentives for materiality levels to be as high as possible. Auditors also have similar incentives. This is not necessarily in the best interest of shareholders. This best kept secret in accounting should be revealed to shareholders."* (Brennan and Gray, 2005, p28)

Among other researchers (e.g. Morris et. al, 1984; Leslie, 1985 in Jennings et al., 1996; De Martinis and Burrowes, 1996; Nelson et al., 2005) Brennan and Gray (2005) suggest that regulators should *"extend disclosure requirements to include information about materiality levels to enhance transparency of accounting and auditing".* (p28) They argue that users of financial statements are entitled to know this information especially because preparers might have incentives for setting as high materiality level as possible to avoid costs associated with disclosure (e.g. agency, proprietary, political costs). Additionally, there is some support from the users of financial statements that an accounting policy disclosure in respect of materiality judgements made by preparers could be useful. (ESMA, 2013) However, other stakeholders argue that *"such disclosures*

would become boilerplate (e.g. repeating the definition of materiality from the standard) and therefore, would not provide relevant entity-specific information to users." (ESMA, 2013, p12) Alternatively, an accounting policy disclosure about materiality judgement in the financial statements would become too complex and difficult to explain by the preparers and understand by the users. (ESMA, 2013)

7.2.5 Materiality concept and segmental reporting

In the case of segmental reporting the standard setter provides a standard based quantitative materiality threshold. IAS 14R used a 10% materiality threshold for determining when business and geographic segments needed to be disclosed separately (IAS 14R:35, 69-72, 74). Additionally, the standard makes it clear that *"The 10% thresholds in this Standard are not intended to be guide for determining materiality for any aspect of financial reporting other than identifying reportable business and geographical segments."* (IAS 14R:38) IFRS 8 also uses the same 10% quantitative threshold for determining when an operating segment (IFRS 8:13) or major customer (IFRS 8:34) is reportable.

IFRS 8 requires the disclosure of material items in two other cases (reconciliation and country level revenue /NCA). Reconciliation between the total of the reportable segments' revenues / profit or loss / assets / liabilities / other material items and the entity's revenues / profit or loss / assets / liabilities / other material items need to be disclosed under IFRS 8.[85] The standard requires that *"all material reconciling items"* need to be *"separately identified and described"* (IFRS 8:28)

IFRS 8 requires entity-wide geographic disclosures (revenues, NCA) if that information is not provided as part of the reportable segment information required by the standard. (IFRS 8:31) Revenues from external customers and NCA must be disclosed (a) for the company's country of domicile and (b) for all foreign countries in total from which the company derives revenues / in which the company holds assets. Additionally, if revenues from / NCA in an individual foreign country are material, those revenues, NCA need to be disclosed separately (IFRS 8:33(a) and (b)).

[85] Table 2.2

> *"the potential benefits of country-level disclosures may never be realized because companies are likely to apply a relatively high level of materiality in defining "material" individual foreign countries"* (Herrmann and Thomas, 2000, p10)

However, the standard does not set an explicit quantitative materiality threshold and does not provide guidance for determining the materiality of a reconciling item and the materiality of an individual country. The determination of what is meant by the "material reconciling item" and by the "individually material foreign country" and therefore what will or will not be disclosed in the company's segmental notes is left to management decision. The concept of materiality brings professional judgement and flexibility into segmental disclosures. On the other hand it also can lead to misuse and / or abuse. (Brennan and Gray, 2005) For example, it can be argued that the new standard gives opportunity to the companies' management to set a relatively high level of materiality if they want to avoid the disclosure of certain countries or the disclosure of country-level information entirely. Crawford et al. (2012a) recommend to auditors to challenge the materiality threshold used by preparers when deciding on entity-wide disclosures. The materiality threshold used by companies affects the aggregation and the fineness of the disclosed geographic information. Geographic information disclosed under IFRS 8 could be either less or more aggregated and fine than under IAS 14R depending on the materiality decision of the companies' management. (Herrmann and Thomas, 2000; Doupnik and Seese, 2001)

While IAS 14R allowed individually material countries to be reported together as geographic areas, IFRS 8 requires the separate disclosures of individually material countries. Companies can provide country-level geographic information either as part of their reportable segment information or as entity-wide information. IFRS 8 sets a 10% quantitative threshold for determining when an operating segment needs to be reported. However, companies can also choose to use lower quantitative threshold. Additionally, the standard does not set a quantitative materiality threshold for companies that provide country-level geographic information as entity-wide information. Thus, the users of financial statements cannot be certain of the materiality threshold applied by the company if the company does not disclose information about its materiality threshold used to determine whether an individual foreign country is material or not.

7.2.6 Literature on the use of materiality concept[86]

Literature on materiality was recently reviewed by e.g. Chewning et al. (2000), Messier et al. (2005), Brennan and Gray (2005) and Vance (2011). Most of the studies on materiality focused on the auditors' materiality judgements and provide insight into their decisions. (see e.g. a review by Messier et al. from 2005 and studies from Libby et al., 2006; Keune and Johnstone, 2012; Libby and Brown, 2013; Moroney and Trotman, 2013; Eilifsen and Messier, 2013) Fewer studies focused on the materiality threshold applied by companies to decide whether a particular item (recognised or disclosed) is material therefore reportable or not. (e.g. Frishkoff, 1970, reclassifications; Morris, et al., 1984, capitalisation of interest; Adams et al., 1999, US GAAP reconciliation; Doupnik and Seese, 2001, geographic segment disclosure; Gleason and Mills, 2002, contingent tax liabilities; Acito et al., 2009, correction of operating lease related to accounting errors; Heitzman et al., 2010, advertisement cost)

Both archival and experimental research techniques (questionnaires, case studies, games) were used to study materiality decisions. In the archival studies the researchers used the companies' financial statements and studied the disclosure of a particular financial statement item. (e.g. Morris et al., 1984, Adams et al., 1999, Doupnik and Seese, 2001, Gleason and Mills, 2002, Acito et al., 2009, Heitzman et al., 2010) Experimental studies examined the decision making behaviour and materiality decisions of different groups (preparers, auditors, analysts, judges, lawyers) in different experimental settings. (e.g. Rose et al., 1970; Boatsman and Robertson, 1974; Hofstedt and Hughes, 1977; Ro, 1982; Jennings et al., 1996; Bernardi and Pincus, 1996; Libby and Kinney, 2000; Jennings et al., 2001; Seese and Doupnik, 2003; Shafer, 2004; Nelson et al., 2005; Ng and Tan, 2007; Iyer and Whitecotton, 2008; Pinsker et al., 2009; Libby and Brown, 2013; Moroney and Trotman, 2013)[87] Hofstedt and Hughes (1977) argue that it is impossible to make extrapolations from the finding of these later studies because the use of experimental method is weak on the external validity dimension in the case of materiality. However, materiality is entity specific, needs to be judged in the context of a particular entity's financial statement. Thus, generalisation from the results of either of the archival or the experimental studies would be difficult and questionable.

[86] with a focus on segmental disclosures

[87] See a comprehensive list of the studies in Vance's meta-analysis (2011) Table 1, p56; in Brennan and Gray (2005) Table 2 , p21-23; Messier et al. (2005) Table 1, 2 & 3

Studies proved that the threshold of materiality varies by different accounting issues (e.g. Holstrum and Messier, 1982; Messier et al., 2005, Vance, 2011), whether the materiality relates to recorded or disclosed item (e.g. Libby et al., 2006; Libby and Brown, 2013), whether the materiality relates to financial statements or environmental issues, sustainability reports (e.g. Deegan and Rankin, 1997; Moroney and Trotman, 2013) and when the materiality decision was made (e.g. Vance, 2011). An item may not be material in one financial reporting period but it could become material in another reporting period. Preparers, auditors and users have different opinions as what is material. (e.g. Pattillo, 1976 in Morris et al., 1984; Holstrum and Messier, 1982; Morris et al., 1984; Jennings et al., 1987 and 2001; Messier et al., 2005; Brennan and Gray, 2005; Vance, 2011)

Archival studies that focus on the use of materiality within segmental reporting include research from Emmanuel et al. (1999), Herrmann and Thomas (2000), Doupnik and Seese (2001). SSAP 25 in the UK introduced the 10% quantitative materiality threshold to help preparers identify reportable business and geographic segments. Emmanuel et al. (1999) studied the segmental disclosure practice of a sample of UK companies to analyse how the preparers interpreted the 10% materiality rule. The authors found that the sample companies reported fewer and larger segments particularly for their geographic operations. Thus, contrary to the intention of the standard the introduction of 10% materiality threshold in SSAP 25 did not improve the companies' segmental quality. Based on their findings Emmanuel et al. (1999) suggested that more detailed guidance on the case of the 10% materiality threshold would be necessary.

Herrmann and Thomas (2000) analysed the effect of SFAS 131 on a sample of US companies' individual foreign country disclosures and found that companies seem to use the 10% materiality threshold similarly to the quantitative threshold for determining operating segments. However, Doupnik and Seese (2001) found that more than 70% (40%) of the sample companies reporting country-level geographic information used less than 10% (5%) quantitative threshold to decide the materiality of revenues. Thus, these companies reported finer information than they would have if there was a 10% threshold in SFAS 131 strictly followed by the companies. (Doupnik and Seese, 2001)

Later the same authors (Seese and Doupnik, 2003) conducted an experiment (using 476 equity analysts located in the US as subjects) and found that both the magnitude of

operation (quantitative benchmark) and the level of country risk (qualitative benchmark) associated with an individual country affect the financial analysts' judgements about firm risk. The authors suggest that firms might use a quantitative threshold for determining reportable individual countries. However, the research results indicate that firms also should consider a qualitative threshold, such as country risk in determining materiality because this may dominate in importance. (Seese and Doupnik, 2003) Additionally, Herrmann and Thomas (2000) suggest that disaggregation is relevant only if the different segments, in this case the individually disclosed countries, have different risk characteristics. These studies support the notion that both quantitative and qualitative considerations are important in evaluating the materiality of a foreign country.

In an attempt to establish some qualitative guidance the SEC issues SAB No.99 which provides several examples of cases[88] in which qualitative factors may render small amounts, misstatements material. Among others the SEC suggest to consider *"whether the misstatement concerns a segment or other portion of the registrant's business that has been identified as playing a significant role in the registrant's operations or profitability"*. (SEC, SAB No.99, 1999) According to Eilifsen and Messier (2013) the big US audit companies provide guidance for their auditors to include in the evaluation of misstatements the effect of a misstatement on segmental information. (Eilifsen and Messier, 2013, Table 6)

In an experiment based study Libby and Brown (2013) found that experienced auditors require correction of smaller errors in disaggregated numbers. Thus, disaggregation increases the reliability of the numbers in the financial statements by decreasing the auditors' tolerance (lower materiality threshold) for misstatement. However, the location of the disaggregated data in the notes moderates this effect.

The application of materiality concept involves professional judgement and decisions are made at the entity level. Thus, considerable diversity in application of materiality thresholds is highly likely.

[88] though it is emphasized that the list provided in the Bulletin is not exhaustive

7.3 Research Objectives, Research Questions and Hypotheses

Geographic information disaggregated to country-level is more useful and relevant than information provided for geographic regions. (see more in Section 2.4) However, IFRS 8 only requires the disclosure of individually material countries. Thus, the preparers' materiality decision affects the countries disclosed and the fineness of the companies' geographic disclosures.

Concerns (e.g. disclosure overload versus not enough relevant information; exercise of professional judgement; asymmetry between the preparer', users' and auditors' materiality judgement; preparers' possible incentives to set high materiality threshold; lack of uniformity, consistency and transparency in the companies' approach to materiality decisions) with the application of the materiality concept (summarised in Section 7.2) call for research on materiality. This part of the thesis aims to provide (1) insight into how the companies apply the materiality concept in defining their individually material countries and (2) an understanding of the factors that might help to explain the diversity of the companies' materiality decisions. (RO_3) To achieve this research objective the following research questions will be answered.

$RQ_{3.1}$: To what extent do companies disclose information about their materiality judgment (how and why is an individual country determined to be material)?
$RQ_{3.2}$: What quantitative and qualitative thresholds are used to determine the materiality of individual countries?
$RQ_{3.3}$: What company characteristics affect the companies' materiality decision?

Hypotheses ($H_{a1} – H_{a12}$) developed in Chapter 5 (Section 5.4) and Chapter 6 (Section 6.2) of this thesis are tested in this chapter as well to investigate different corporate disclosure theories (Section 2.3) via the investigation of the effects of different company characteristics (Table 5.5) on the companies' materiality decisions.

7.4 Sample selection

From the 155 companies that provided domestic / foreign revenue information under their IFRS 8 segmental notes (Table 6.1) 107 (69.03%) provided revenue and 76 (49.03%)

provided both revenue and NCA disclosure for at least one individual foreign country. (Appendix A. 1 and Table 7.1) Under IAS 14R 60 companies disclosed revenue information for at least one foreign individual country. 42 of these companies disclosed revenue and NCA information under IFRS 8 as well

Table 7.1 Sample selection: foreign country disclosures

Sample	**IAS 14R**		**IFRS 8**	
	Number of companies	**% of companies**	**Number of companies**	**% of companies**
Geographic information available under IFRS 8 (Table 6.1)	155	100.00	155	100.00
Less: No revenue by country	29	18.71	0	0.00
Less: Only country of domicile revenue provided	66	42.58	48	30.97
Revenue provided for foreign country / countries	**60**	**38.71**	**107**	**69.03**
Less: No NCA by foreign country			31	20.00
Revenue and NCA disclosed for foreign country / countries			**76**	**49.03**

7.5 Quantitative materiality threshold measure

Doupnik and Seese (2001) argue that based on the individual country disclosures of the company it is possible to determine the upper bound to the quantitative threshold used by the company. It is assumed that to set the quantitative materiality threshold the companies compared the revenues from (NCA in) individual countries with the total revenues (NCA) of the company. The upper bound of the materiality threshold used by the company is calculated as the smallest percentage of total revenue (NCA) disclosed by the company. If the proportion of the individual country's revenue (NCA) exceeds the quantitative materiality threshold (the smallest percentage) than it is assumed that the country would be (was) disclosed separately. (Equation 7.1) (Equation 7.2) It is also possible that the company has a materiality threshold lower than the calculated smallest percentage but it does not have any individual country that meets this lower threshold. (Doupnik and Seese, 2001)

(Equation 7.1)

$$MT_{REV} = \min\left\{\frac{FORCOUNTRYREV_i}{TOTREV}\right\}$$

Where

MT_{REV}	=	Materiality Threshold for revenue
$FORCOUNTRYREV_i$	=	revenue from foreign country *i*
TOTREV	=	total revenues

(Equation 7.2)

$$MT_{NCA} = \min\left\{\frac{FORCOUNTRYNCA_i}{TOTNCA}\right\}$$

Where

MT_{NCA}	=	Materiality Threshold for NCA
$FORCOUNTRYNCA_i$	=	NCA in foreign country *i*
TOTNCA	=	total NCA

One can argue that for a materiality judgment based on quantitative data different measures can be and probably have been used by the companies. Beside the revenue from and / or NCA in the countries the companies could and might have used e.g. earnings from, capital invested in the individual foreign countries when selecting the individually material countries. However, based on the geographic disclosure provided by the companies other measures cannot even be calculated for the sample companies. For example, only 17.11% of the companies (N=76) disclosed earning measure for the reported foreign country (countries). (Table 7.4) Additionally, qualitative factors (e.g. political and exchange risks, the company's geographic diversity etc.) might also have impacts on the preparers' decision. The fact that those companies which voluntarily disclosed information about their materiality decision[89] applied the simple *"contributes more than 10% of the Group's revenue or non-current assets"* (WS Atkins plc 2010 Annual Report and Accounts, p91; see more in Appendix D. 1) approach indicates that the proposed materiality threshold measures (Equation 7.1), (Equation 7.2) could be good starting points for studying the materiality cut-off applied by the companies. It is also

[89] 14/155 → 9.03%; 14/76 → 18.42%

worth to mention that none of these companies disclosed any qualitative materiality factors which were considered during the company's materiality decision making.

7.6 Analysis and results

7.6.1 Disclosure of the applied materiality judgements / policies

Based on the financial statements of a company it is impossible to find out what materiality aspects were considered by the company unless the company discloses specific information about its materiality judgements.

To date preparers are not required to disclose information about their materiality decisions. Therefore it is not surprising that only 14 companies provided voluntary disclosure on the materiality level they used. (See the extracts of the materiality notes of the companies in Appendix D. 1) The extract of the notes from the companies' financial statements suggests the dominance of the use of quantitative materiality thresholds. With the exception of one company[90], these companies applied 10% materiality threshold when they decided whether an individual country is material or not. Thus, any country which meets the 10% materiality thresholds was considered reportable. The companies might have applied the same 10% quantitative threshold which is set in IFRS8 for other segmental disclosures (operating segments, major customers) and was used by IAS 14R to identify reportable geographic segments. On the other hand, the use of the "10% of revenues / NCA" can be the application of a more general rule of thumb as well.

However, none of the companies mentioned any qualitative factors that were considered in assessing the materiality of an individual foreign country. Thus, the actual qualitative factors, if there were any, used by the companies cannot be directly studied based on the historical information provided by the companies in their financial statements.

[90] Spectris plc (3%)

7.6.2 Individually material countries

> *"Those countries which account for more than 10% of the group's total revenue and / or non-current assets are considered individually material and are reported separately ... ."* (SABMiller plc Annual Report 2010, p87)
>
> *"The Group's revenue and non-current assets (excluding the financial asset and deferred tax assets) by geographical location are separately detailed below where they exceed 10% of total revenue or non-current assets, respectively, in any particular year:..."* (SOCO International plc Annual Report and Accounts 2009, p71)

It also could happen that under entity-wide information the company discloses revenues but not NCA for one country and discloses NCA but not revenues for another. (see more in Chapter 6 and Table 7.3) IFRS 8 does not require the disclosure of NCA for a country which is individually disclosed because the external revenues attributed to it are found to be material, and vice versa. An individually reported country might be material because of its revenue contribution *and* also because of the NCA the company allocated to it. However, it is also possible that a country is individually material because of its revenue contribution *or* the NCA the company allocated to it. (see the extracts above) It is the decision of the preparers' management whether the company provide both the revenue and NCA information for a country found to be individually material based on either the revenues or the NCA allocated to it.

> *"Analysts argue that information about revenues from customers in different geographic areas aids in understanding concentration of risks due to negative changes in economic conditions and prospects for growth due to positive economic changes. Information about assets located in different areas assists in understanding concentration of risks such as political risk (e.g. expropriation)."* (Nichols et al., 2000, p64)

From the 76 companies that provided both revenue and NCA information for individually material countries 20 (20/76 → 26.32%) companies disclosed the revenue and NCA information in a different structure. Most of these companies (16/20 → 80.00%) disclosed more detailed revenue than NCA information. For example, BHP Billiton disclosed both revenue and NCA information for Australia and the UK but only revenue information for China and Japan. (Table 7.3 and Table 7.2)

Table 7.2 Example of reporting geographic revenue and NCA information in different structure

Panel A

2 Segment reporting continued

Geographical information

	Revenue by location of customer		
	2010 US$M	2009 US$M	2008 US$M
Australia	4,515	4,621	5,841
United Kingdom	1,289	3,042	3,091
Rest of Europe	8,554	7,764	11,258
China	13,236	9,873	11,670
Japan	5,336	7,138	6,885
Other Asia	9,840	9,280	10,111
North America	5,547	4,020	4,771
South America	2,013	1,652	2,640
Southern Africa	1,227	1,374	2,003
Rest of world	1,241	1,447	1,203
	52,798	50,211	59,473

	Non-current assets by location of assets [a]		
	2010 US$M	2009 US$M	2008 US$M
Australia	35,267	28,779	28,166
United Kingdom	316	245	388
North America	7,143	7,382	7,050
South America	9,230	9,163	8,823
Southern Africa	5,466	4,286	3,883
Rest of world	733	976	1,084
Unallocated assets	5,563	5,453	4,934
	63,718	56,284	54,328

[a] Non-current assets attributed to geographical locations exclude deferred tax assets and other financial assets.

BHP Billiton Annual Report 2010, p207

Panel B

Geographical segments

The Group's revenue by destination is shown below:

	2009 £m	2008 £m
United Kingdom	1,458	1,462
Rest of Europe	2,273	1,890
USA	2,895	2,214
Canada	275	299
Asia	2,856	2,439
Africa	144	143
Australasia	230	255
Other	283	380
	10,414	9,082

The carrying amounts of the Group's non-current assets, excluding financial instruments, deferred tax assets and post-employment benefit surpluses, by the geographical area in which the assets are located, are as follows:

	2009 £m	2008 £m
United Kingdom	2,764	2,586
North America	467	463
Nordic countries	824	745
Germany	574	539
Other	289	293
	4,918	4,626

Rolls-Royce Group Plc Annual Report, p107

A further analysis reveals that the companies disclosed the carrying amount of the NCA by the geographical location in which the assets are located. However, 70.00% (14/20; e.g. Antofagasta, BAE Systems, BHP Billiton, Lonmin, Petrofac, Rolls-Royce Group, Hikma Pharmaceuticals etc.) of the companies disclosed revenue from external customers

by the location of the customer. (Table 7.2) This could be an explanation why these companies reported partially different individually material countries by revenue and by NCA.

It has already been indicated in Chapter 6 that calculating financial ratios from revenue attributed to countries based on customer location and from NCA attributed to countries based on the location of the asset could be misleading when the revenue structure based on origin and the revenue structure based on destination are significantly different. (see more in Section 6.4.1) This could be a problem even if the company regarded the same countries to be individually material based on both revenue and NCA attribution.

Table 7.3 The structure of geographic revenue and NCA information

Geographic revenue information provided as	**Revenue and NCA provided in**			
	same structure	**different structure, more detailed**		
		Revenue	**NCA**	**Total**
Entity-wide information	34	13	1	14
Geographic reporting segments	4	0	0	0
Mixed reporting segments	1	0	0	0
Both entity-wide information and reporting segments				0
in same structure	3	0	0	0
in different structure	14	3	3	6
Detailed geographic information provided	**56**	**16**	**4**	**20**

7.6.3 Quantitative materiality thresholds under IFRS 8

The distribution of quantitative materiality thresholds used by the companies

Appendix D. 2 summarises information about the smallest revenue and NCA disclosures provided by the sample companies. As in the study by Doupnik and Seese (2001) the sample companies were grouped into three materiality categories based on the smallest revenue (NCA) information they provided. The categories are (1) less than 5% of total revenues (NCA), (2) between 5% and 10% of total revenues (NCA) and (3) more than 10% of total revenues (NCA). One can argue that a country that provides greater (less) than 10% (5%) of the company's total revenues (NCA) is material (immaterial) for the company. Under IFRS 8 more than half of the sample companies (41 companies, 53.95%)

applied 10% or less revenue materiality cut-off point to determine the material countries. Fewer companies, only 34 companies (44.74%) used 10% or less NCA materiality threshold to determine the materiality of an individual country. The remaining companies (revenue → 46.05%, NCA → 55.26%) either used more than 10% materiality threshold or they simply did not have revenues / NCA less than 10% from any of the countries. (Appendix D. 2)

28.95% (26.32%) of the companies reported individual countries with less than 5% revenue (NCA) contribution to the company's total revenues (NCA). (Appendix D. 2) Many companies (revenues: 9/76 → 11.84%; NCA: 11/76 → 14.47%) used less than 1% of total revenues / NCA as materiality threshold. It is highly unlikely that in any circumstances a country with less than 1% (even 5%) of the total revenues / NCA can be regarded as quantitatively material. There must be other reasons why the companies disclose these quantitatively immaterial countries individually. Doupnik and Seese (2001) argued that management might have incentives to use low materiality threshold and report individual countries to signal to investors the company's geographic diversification and / or its operation on low risk countries. Additionally, information reported at country level is very welcomed by different user groups (e.g. financial analysts; Civil Society Organisations, CSOs; tax governance etc.). (see more in Section 2.4) Thus, another possible reason why the preparers disclose information about quantitatively relatively immaterial countries is to please these user groups. It is also worth to mention that the companies usually disclose only revenue and NCA information for the reported countries. These two items, without earnings measure disclosed for the same countries, probably do not reveal too much commercially sensitive information and threaten the company's competitive position.

Table 7.4 provides some further and rather interesting details. From the 76 companies that disclosed both revenue and NCA information for at least one foreign country only 13 (17.11%) provided earnings measure for the disclosed countries. Surprisingly, the average number of disclosed items by country is higher for those companies which applied revenue materiality cut-off point lower than 5%. Additionally, the proportion of the earning disclosing companies is higher for the companies which used less than 10% revenue materiality threshold. These findings indicate that many companies that used less than 10% revenue materiality threshold are willing to reveal more detailed and relevant geographic information even for the quantitatively less important countries.

However, 53.85% of the earning disclosing companies used greater than 10% NCA materiality threshold and there is not a big difference between the average number of items disclosed by NCA materiality categories.

Table 7.4 The number of disclosed items and earning measure disclosure by materiality categories

Standard	Materiality threshold under IFRS 8							
Revenue / NCA	Revenue				NCA			
Sample	N=76				N=76			
Materiality categories	**< 5%**	**5 - 10%**	**> 10%**	**Total**	**< 5%**	**5 - 10%**	**> 10%**	**Total**
Number of companies	**22**	**19**	**35**	**76**	**20**	**14**	**42**	**76**
% of companies	**28.95**	**25.00**	**46.05**	**100.00**	**26.32**	**18.42**	**55.26**	**100.00**
Number of items disclosed by countries								
Mean	**3.45**	**2.68**	**3.14**	**3.12**	**3.05**	**3.14**	**3.14**	**3.12**
Median	2.00	2.00	2.00	**2.00**	2.00	2.00	2.00	**2.00**
Minimum	2.00	2.00	2.00	**2.00**	2.00	2.00	2.00	**2.00**
Maximum	11.00	6.00	9.00	**11.00**	8.00	8.00	11.00	**11.00**
Standard Deviation	2.52	1.34	3.14	**2.01**	1.96	1.83	2.14	**2.01**
Earning measure disclosed								
Number of companies	4	6	3	**13**	3	3	7	**13**
% of companies within the materiality category	18.18	31.58	8.57	**17.11**	15.00	21.43	16.67	**17.11**
% of companies within the earning disclosing companies	30.77	46.15	23.08	**100.00**	23.08	23.08	53.85	**100.00**

The variance of materiality thresholds and the mean materiality threshold used by the companies

Boxplots for revenue and NCA materiality cut-off points indicate the presence of outliers and the asymmetrical distribution of the materiality cut-off points (top whiskers of the boxplots are much longer than the bottom whiskers). (Figure 7.3) A wide range of materiality thresholds were used by the companies in deciding the individually material countries (revenue → Minimum: 0.02%, Maximum: 63.91%, Mean: 14.36%, Standard Deviation: 14.72%; NCA → Minimum: 0.01%, Maximum: 99.97%, Mean: 19.87%, Standard Deviation: 22.72%). The NCA cut-off points varied even more than the revenue cut-off points (Revenue → Range: 63.91% - 0.02% = 63.89%, Relative St. Dev.: 14.72/14.36 = 1.0251; NCA → Range: 99.97% - 0.01% = 99.96%, Relative St. Dev.: 22.72/19.87 = 1.1434). (Appendix D. 2)

Due to the lack of detailed guidelines and a quantitative cut-off point set by the standard, companies use very different materiality thresholds. The middle 50% of the revenue (NCA) materiality thresholds applied by the different companies fall between 3.49% (4.48%) and 20.10% (29.10%). The distance between the lower and upper quartile of the revenue (NCA) materiality cut-off points is almost 17% (25%). These relative big numbers indicate high degree of inconsistency in the materiality thresholds even after eliminating the outliers. (Figure 7.3 and Table 7.5) This suggests that the companies

probably do not use any general quantitative rule, benchmark when they define their individually material therefore reportable countries. It might also be that the companies do follow general quantitative benchmarks but additional qualitative factors also play an important role when the companies set their own materiality threshold for individually material countries.

Figure 7.3 Boxplots for revenue and NCA materiality cut-off points

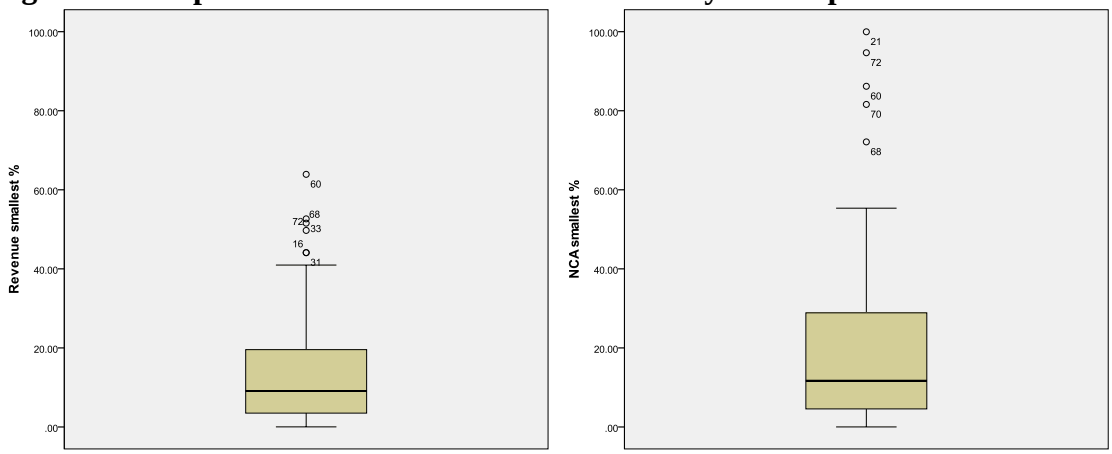


Table 7.5 Percentiles for revenue and NCA cut-off points

Percentiles

		Percentiles						
		5	10	25	50	75	90	95
Weighted Average (Definition 1)	Revenue smallest %	.2420	.7175	3.4871	9.1264	20.0989	38.2305	50.0004
	NCA smallest %	.0940	.5720	4.4800	11.6900	29.0975	46.8110	82.2885
Tukey's Hinges	Revenue smallest %			3.5030	9.1264	19.5629		
	NCA smallest %			4.5700	11.6900	28.8750		

Table 7.6 provides some illustrating examples. Petrofac, Tate & Lyle and Invensys are internationally highly visible companies (Table 7.6, Panel A). They have a considerable number of principal subsidiaries abroad and earn about 80% of their total revenues from foreign countries. Although, all three company provide geographic revenue disclosure as entity-wide information they do that in a very different way. Petrofac reports 6 countries individually one of which has as small revenue percentage as 5.04%. This could be contrasted with for example Invensys which only considered one country material, from which it had almost a third of its total revenues. (Table 7.6)

IFRS 8 requires 10% quantitative threshold for determining operating segments and major customers. Although the average of the revenue and the NCA cut-off point were above 10% (revenue → 14.36%, NCA → 19.87%) around 50% of the companies applied less than 10% as materiality threshold. (Appendix D. 2) If IFRS 8 had required a general

10% quantitative materiality threshold which had been followed the average materiality thresholds would have been even higher. This result is in line with the findings of Doupnik and Seese (2001).

Table 7.6 Examples of different revenue materiality cut-off points

Company	Foreign revenue %	Number of countries with principal subsidiary	Smallest revenue %	% of foreign revenues reported by country	Number of individual foreign countries reported
Panel A					
Petrofac	80.71	24	**5.04**	84.28	6
Tate & Lyle	82.03	27	**52.65**	64.19	1
Invensys	83.64	25	**30.14**	36.03	1
Panel B					
Keller Group	94.45	14	**12.23**	60.58	2
AstraZeneca	94.49	14	**1.08**	84.69	11

It seems that the companies used higher materiality threshold in determining the materiality of NCA in individual countries than they used in determining the materiality of revenues in individual countries. The mean revenue cut-off point was 14.36% (St. Dev.: 14.72%) and the mean NCA cut-off point was higher, 19.87% (St. Dev.: 22.72%). On average, the companies used significantly higher NCA cut-off (M = 19.87%, SE = 2.61%) than revenue cut-off (M = 14.36%, SE = 1.69%; $p < 0.005$, $r = 0.677$). (Part I in Appendix D. 4, Table 7.5 and Figure 7.3)

IAS 14R did not require the disclosure of geographic revenues (NCA) for individually material countries. However, many companies defined individual countries as their geographic segments (e.g. Roll-Royce Group, Logica, Rio Tinto Group, GSK, Hikma Pharmaceuticals, Antofagasta, Kingfisher, Vodafone etc.) and disclosed country-level information. The threshold used by the companies to determine what to disclose under IAS 14R and IFRS 8 can be compared for the 42 companies that disclosed revenue information for individual countries under both standards. The mean revenue cut-off point applied by these companies significantly decreased under the new regulation ($M_{IAS14R} = 15.97\%$, $SE_{IAS14R} = 2.02$; $M_{IFRS8} = 10.75\%$, $SE_{IFRS8} = 1.76\%$; $p < 0.001$, $r = 0.684$). (Part II in Appendix D. 4) Thus, the use of the new regulation resulted in lower

level revenue materiality threshold for the companies that provided country-level revenue information under IAS 14R.

The effect of different company characteristics on the quantitative materiality threshold applied by the companies

This part of the section provides answer to $RQ_{3.3}$: *What company characteristics affect the companies' materiality decisions* by testing hypotheses $H_{a1} – H_{a12}$ developed in earlier chapters (Section 5.4 and Section 6.2). Connections between the quality measures of the companies' geographic disclosures and the revenue / NCA materiality thresholds applied by the companies are also analysed.

The results in Appendix D. 2 indicate that bigger (total sales), internationally more visible (proportion of foreign revenues in total revenues, number of foreign countries with subsidiaries, number of subsidiaries in foreign countries) companies with higher growth rate (change in total sales) are more likely to use more than 10% quantitative threshold. Additionally, there seems to be negative relationship between the cut-off points applied and the number of geographic locations and individual countries disclosed by the company.

Correlation coefficients were calculated to measure the relationship between the revenue (NCA) cut-off point used by the companies and several quantitative company characteristics. (Table 7.7 and Appendix D. 3) The Pearson correlation coefficients show significant, positive correlation between the revenue and the NCA materiality threshold used by the companies ($r = 0.677$, $p = 0.000$). Thus, the higher the revenue threshold used, the higher the NCA threshold applied. The NCA cut-off point applied by the companies is significantly, positively correlated with the growth rate of the company ($r = 0.342$, $p = 0.002$) [91]. (Table 7.7 and Appendix D. 3)

However, there is not any other significant relationship between the revenue / NCA materiality threshold of the company and the tested company characteristics (foreign revenue / NCA, capital intensity, total sales, profitability, liquidity, gearing, effective tax rate, number of items reported by country, number of foreign countries with subsidiaries, number of subsidiaries in foreign countries). (Table 7.7 and Appendix D. 3)

[91] However, neither the Spearman's nor the Kendall's coefficients indicate significant relationships between the growth rate and the companies' NCA threshold.

Table 7.7 Pearson correlation coefficients between different quantitative company characteristics, quality measures of geographic disclosure and the revenue / NCA materiality thresholds used by the companies under IFRS 8[92]

	Materiality threshold under IFRS 8*			
	Revenue %		NCA %	
N=76	Pearson correlation	Sig. (2-tailed)	Pearson correlation	Sig. (2-tailed)
Materiality threshold				
NCA smallest %	**0.677**	**0.000**	1.000	-
Revenue smallest %	1.000	-	**0.677**	**0.000**
Company characteristics / Tested hypothesis				
Foreign revenue / H_{a11}	0.080	0.493	0.105	0.368
Foreign NCA / H_{a11}	0.163	0.158	**0.244**	**0.034**
Capital intensity / H_{a2}	-0.029	0.802	-0.054	0.641
HHI / H_{a2}	0.096	0.407	0.074	0.523
Total sales / H_{a3}	0.095	0.413	0.084	0.471
Growth rate / H_{a8}	-0.050	0.669	**0.342**	**0.002**
Profitability / H_{a7}	0.027	0.817	-0.019	0.868
Current ratio / H_{a6}	0.047	0.684	0.067	0.563
Gearing / H_{a5}	-0.072	0.539	0.088	0.450
No. of foreign countries with subsidiary / H_{a11}	0.145	0.212	-0.013	0.913
No. of subsidiaries in foreign countries / H_{a11}	0.088	0.451	-0.014	0.902
Effective tax rate / H_{a12}	0.050	0.671	-0.083	0.478
No. of tax haven countries with subsidiary / H_{a12}	0.212	0.066	0.027	0.816
No. of subsidiaries in tax havens / H_{a12}	0.000	0.998	-0.091	0.436
Quality measures of geographic disclosures				
% of revenue reported by country / H_{a11}	-0.156	0.179	**-0.255**	**0.026**
No. of geographic locations reported	**-0.459**	**0.000**	**-0.409**	**0.000**
No. of individual countries reported	**-0.508**	**0.000**	**-0.454**	**0.000**
No. of geographic regions reported	-0.104	0.372	-0.090	0.437
No. of items disclosed by countries	-0.001	0.992	-0.047	0.686
Fineness score _ 3	**-0.260**	**0.023**	**-0.312**	**0.006**
Fineness score _ 4	**-0.237**	**0.040**	**-0.305**	**0.007**
Fineness score _ 8	-0.196	0.090	**-0.283**	**0.013**

*: smallest revenue (NCA) % disclosed by the companies

The materiality threshold used by the companies affects the number of countries identified and reported and impacts on the aggregation and therefore on the fineness of the company's geographic disclosures. If the company sets a higher cut-off point it probably means that fewer countries are determined to be individually material, less geographical location is reported. This could lead to greater aggregation and less fine

[92] see Appendix D. 3 as well

information. Both the revenue and the NCA materiality threshold applied by the companies are significantly, negatively correlated with the number of reported location (r_{REV} = -0.459, p_{REV} = 0.000; r_{NCA} = -0.409, p_{NCA} = 0.000) and with the number of reported individual countries (r_{REV} = -0.508, p_{REV} = 0.000; r_{NCA} = -0.454, p_{NCA} = 0.000). Thus, the higher the materiality threshold used, the lower the number of geographic locations and individual countries reported. Additionally, the correlation coefficients show significant, negative relationship (e.g. $r_{REV\&F3}$ = -0.260, $p_{REV\&F3}$ = 0.023) between the fineness scores (see more in Section 6.4.2) and the materiality cut-off points used by the companies. Thus, the lower the revenue materiality threshold used, the finer the revenue information disclosed in the notes. (Appendix D. 3 and Table 7.7)

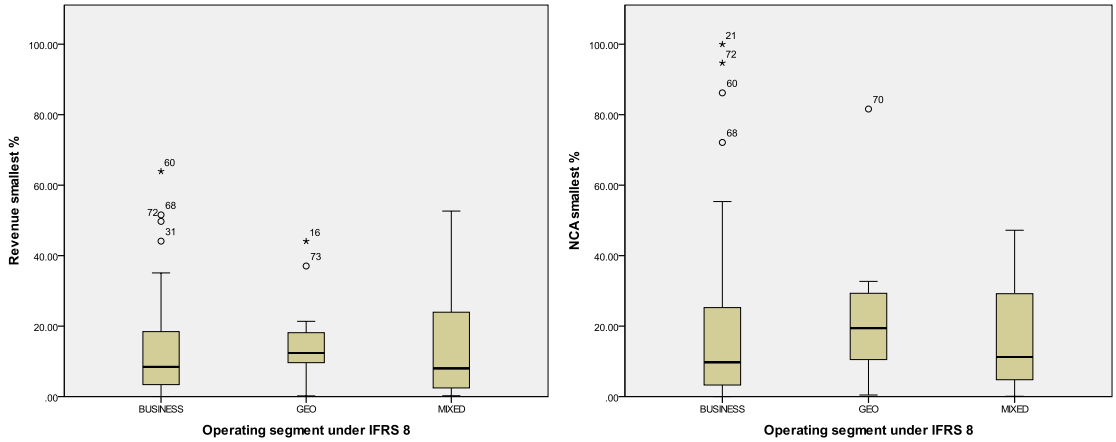
Companies in the Telecommunication and Consumer Services (Health Care and Technology) industries, not cross listed, not US listed and early adopters, on average, applied lower (higher) materiality cut-off point. However, only early adoption had significant effect on the materiality threshold used by the companies to determine when revenues (NCA) in individual country are important enough to be reported. Early adopter companies (revenue → 6.86%, NCA → 10.43%) applied significantly lower materiality threshold than not early adopter companies (revenue → 16.05%, NCA → 22.00%). (Appendix D. 5)

Companies that were organised around geographic areas (15.76%) and a mixture of geographic and business areas (15.07%) used higher materiality threshold than companies that were organised around business areas (13.76%)[93]. (Appendix D. 5) Companies organised around business areas provided geographic disclosures under entity-wide information. A possible reason for the lower materiality threshold applied by these companies could be that under entity-wide information companies only have to disclose revenue and NCA for their individually material countries. Whereas, companies that report individual countries under geographic or mixed reporting segments have to disclose other, more sensitive items as well (IFRS 8:23). It means that these companies have to disclose for example a measure of profit or loss for the individually reported countries. This could affect the company's competitive position (proprietary cost), could help to evaluate the work done by the management of the company (agency cost) and also

[93] Although, the difference between the means is not significant.

could provide useful information for the reported countries' national tax authorities (political cost).

Figure 7.4 Boxplots for revenue and NCA materiality cut-off point by IFRS 8 operating segment



Further analysis reveals that from the 28 companies that used geographic or mixed reporting segments 20 provided additional entity-wide information[94]. Companies with geographic and mixed reporting segments have the 10% materiality threshold set by IFRS 8 (IFRS 8:13). This means that they should report every country where the company has more than 10% revenue or earnings from and every country where the company has more than 10% of its assets unless they provide this country level information as entity-wide information. Rather than reporting as operating segments the companies usually report their individually material countries under entity-wide information (double reporting practice, see more in Chapter 6). However, even with this double reporting practice the companies with geographic or mixed reporting segments (materiality threshold under entity-wide information: revenue → 16.23%; NCA → 22.45%) seem to use higher materiality threshold than the companies with business reporting segments (revenue → 13.76%; NCA → 19.50%). (Appendix D. 5) The use of the higher materiality threshold could indicate that companies organised around geographic areas and a mixture of geographic and business areas try to hide as much country specific information as possible. These companies seem to be more secretive than the companies organised around business areas. (see more in Chapter 6) (Appendix D. 5 and Figure 7.4)

[94] in different structure

7.7 Foreign country reporters versus non reporters

The analysis of the country-level revenue and NCA disclosure of 76 companies can provide some insight into how these companies might set their materiality thresholds. However, the relatively small sample size (only 76 companies from the 155) indicates that it might be even more important and interesting to study the company characteristics that affect the individual foreign country disclosures of the companies (no disclosure at all, only revenue disclosure, both revenue and NCA disclosed by individual foreign countries).

155 companies disclosed domestic / foreign revenue as it required by IFRS 8 (IFRS 8:33(a)). Almost a third of these companies (48 companies, 30.97%) did not disclose revenue / NCA information for any individual foreign company. Thus, although 155 companies "admitted" foreign revenues only 107 companies could find at least one foreign country to be material enough to be disclosed separately. From the 107 companies that provided revenue information only 76 provided NCA as well for at least one individual foreign country. (Appendix D. 6, Table 6.1 and Table 7.1)

Companies in the Health Care, Oil and Gas and Telecommunication industries, audited by one of the Big4 auditors, not single segment companies, FTSE 100 constituents, cross listed, US listed, early adopters, organised around business areas and report geographic revenue / NCA either as entity-wide information or both as entity-wide information and reporting segments more likely provide revenue and NCA information for individual foreign country(ies). On the other hand, for example 38.24% of the companies in the Consumer Services, 35.85% of the companies in the Industrials and 35.71% of the companies in the Technology industries, 39.80% of the FTSE 250 constituents and 43.55% of the companies not listed in the US provided neither revenue nor NCA information for any foreign country. (Appendix D. 6)

The frequencies and relative frequencies in Appendix D. 6 and the results of Pearson's Chi-square test (Appendix D. 7) suggest that FTSE ($\chi^2_{(2)} = 11.366$, $p < 0.003$) and US listing ($\chi^2_{(2)} = 7.790$, $p < 0.020$) status and the way companies reported their geographic revenues under IFRS 8 ($\chi^2_{(8)} = 16.045$, $p < 0.042$) influenced whether the companies disclosed individual foreign country revenue / NCA information or not. Cramer's statistics indicate some association between categorical variables FTSE listing (C =

0.271, $p < 0.003$), US listing ($C = 0.224$, $p < 0.020$), the type of geographic disclosure under IFRS 8 ($C = 0.228$, $p < 0.042$) and the individual foreign country disclosure practice of the companies. Although, the frequencies indicate some association between the company's industry type and whether the company discloses revenue / NCA information by individual foreign country or not, this association is not significant ($\chi^2_{(16)} = 16.443$, $p < 0.442$). (Appendix D. 7)

Companies providing neither revenue nor NCA information for any individual country have, on average, the lowest foreign revenue percentage (49.24%), number of foreign countries with subsidiary (9.17) and number of subsidiaries in foreign countries (15.42). Based on the averages these companies seem to be internationally less visible than the companies that disclosed revenue or revenue and NCA for at least one foreign country. (Appendix D. 8) However, a more detailed analysis can reveal that about half (a third) of the non-disclosing companies generate 50% (75%) or more of their revenues from / in abroad and have subsidiaries at least 5 (10) foreign countries. Thus, a relatively high proportion of these non-disclosing companies have considerable presence in foreign countries.

Company characteristics 1) foreign revenue percentage and 2) number of subsidiaries in foreign countries significantly affect whether the companies report revenue or revenue and NCA for individual foreign country(ies). The companies in the non-disclosing group reported lower number of geographic locations (3.13) and only one country, their country of domicile. Therefore, it is not surprising that the fineness score calculated for this group of companies, on average, is lower than the fineness score calculated for the other two groups of companies. (Appendix D. 8)

An interesting fact is that companies that only provide revenue for foreign countries have, on average, higher percentage of their revenues reported by country (68.29% ↔ 65.55%) and higher fineness score (F_3: 2.46 ↔ 2.32) than the companies that report both revenue and NCA for foreign countries although they have fewer locations (5.52 ↔ 6.05) and countries (3.32 ↔ 3.66) reported. This can indicate that the operation of these companies is more concentrated in some countries. Thus, providing NCA information beside the revenue information might be commercially more harmful for the companies. However, these companies also disclosed higher number of items by countries (5.29 ↔ 3.12; post hoc analysis shows significant difference between the means). (Appendix D. 8) The

companies did not provide NCA information for individual foreign countries but it seems that they tried to compensate the users of financial statements with other items disclosed by country.

7.8 Discussion and conclusion

The disclosure of an individual country depends on the preparer's materiality decision. Segmental data from the sample companies' annual reports indicate considerable levels of inconsistency in the preparers' materiality judgements. Thus, the flexibility provided for the companies on the identification of individually reportable countries resulted in a wide variety of disclosure practices. ($RQ_{3.2}$)

The results indicate that certain company characteristics have a significant effect on the companies' decision whether to report individual country information or not. Companies which are FTSE 250 constituents, not US listed, internationally less visible (lower revenue percentage from abroad, lower number of subsidiaries in foreign countries) and are organised around geographic areas or a mixture of geographic and business areas more likely hold back their country level revenue / NCA information. ($RQ_{3.3}$)

One can argue, that information relating to quantitatively relatively immaterial countries (e.g. 5%, 5-10% of the revenues and / or NCA) will not significantly improve the financial statement users understanding about the risks and rewards of the company's activities in different countries. The question is whether there is a need to for a minimum threshold set either in IFRS 8 or in a general materiality standard. About a quarter (half) of the companies reported individual countries with less than 5% (10%) contribution to the company's total revenues / NCA. This more detailed, seemingly immaterial information could be valuable for financial statement users such as civil societies, tax authorities etc. and in most of the cases this is the only available information about the companies' activities in different foreign countries. Additionally, the reported countries might not seem to be quantitatively material but they still can be material in qualitative terms. On the other hand, even if a minimum threshold is set standards and guidelines do not offer upper limit of applicable materiality thresholds (e.g. *"10 per cent or more"*, IFRS 8:13 and 34). A quarter (two fifths) of the sample companies used revenue (NCA) materiality threshold 20% or more. These companies simply might not have any other country with

smaller revenue / NCA contribution. Other individually relatively immaterial countries with more or less the same qualitative characteristics (e.g. risk and rewards, general economic and political environment etc.) might have been grouped together and reported under a geographic region (e.g. Eastern Europe, Western Europe, North America etc.) In summary, it seems that both preparers and users of financial statements might be better off if the company's country level disclosures are not guided by materiality thresholds but by the proper application of the materiality concept. (see more in Section 7.2.4) ($RQ_{3.2}$)

Country-level data from the companies' segmental notes documents the inconsistency between the companies' materiality decisions. The materiality threshold applied by the sample companies varies considerably. This result indicates that the companies do not apply a general quantitative benchmark such that countries that contribute more (less) than a certain percent of the total revenues / NCA are always material (immaterial). However, with the exception of early adoption (H_{a3}) none of the studied company characteristics had significant effect on the materiality threshold applied by the companies. Early adopter companies are not just ahead of other companies in the application of the new standards but they use significantly lower level materiality threshold as well. These companies might use early adoption and lower materiality thresholds to (1) signal to the market and to different stakeholders and (2) differentiate themselves from their competitors. The results suggest that there could be factors, not studied in this research that might be more important in the preparers' materiality decisions. These factors could be both quantitative (e.g. the individual country's contribution to the companies' total earnings, capital expenditure percentage allocated to the country etc.) and qualitative (e.g. the management's personal empire building plans, stability of the foreign currency, the company's tax policy etc.). ($RQ_{3.3}$)

Only the preparers know what is behind their materiality decision. However, only a few companies disclosed information about the quantitative materiality threshold applied and none of them disclosed information about the qualitative factors considered in assessing the materiality of an individual country. The results of the analysis of the country disclosures indicate that the preparers' materiality decisions are probably based on both quantitative and qualitative considerations. Thus it would be useful to have additional disclosure about the quantitative and qualitative aspects considered by the companies when they set their materiality threshold (e.g. the use of lower materiality threshold

because the company has operations in countries with higher political, exchange risks or because in the near future the company is going to expand its production and / or sales operation in that country etc.). ($RQ_{3.1}$)

The empirical findings provide evidence that the companies use both the flexibility provided by IFRS 8 and the shield of the materiality concept when they make materiality decision about their individually material, therefore reportable countries. Greater transparency and detail about the companies' materiality decision would reduce the uncertainty and would enhance the understanding of the companies' segmental notes.

Chapter 8 “CBCR” under IFRS 8: How far are we? Evidence from UK companies

8.1 Introduction

In the last decade there have been calls to require MNCs to disclose information about their activities in those countries where they have operations. This reporting requirement is often called country by country reporting (CBCR). However, to date with the exception of the IFRS 8 requirement to disclose external revenues and NCAs for individually material countries and for the country of incorporation, MNCs are not required to disclose financial information on a CBC basis in their audited financial statements.

In the absence of CBCR the activities of MNCs and local authorities cannot be assessed. Disclosing CBC information sheds light on the countries where MNCs actually operate; the contribution of MNCs to the budget of different countries through taxation, royalties etc.; the intra-group trading, artificial profit shifting and tax avoidance of MNCs; the risk exposure of MNCs in different countries; the resource allocation decision of the directors of MNCs; the reputational risks of MNCs; the relationship between MNCs and their host countries; the special arrangements between governments and MNCs; the use of the national resources; the corruption gaps[95] etc.. Thus, CBCR has the potential to result in greater accountability and transparency and to provide financial information that is essential for financial statements users to make appropriate decisions.

The Transparency International (TI, 2012) studied the CBCR of the 105 largest publicly listed MNCs. A company was regarded as fully transparent if revenue, capital expenditure, income before tax, income tax and community contributions were disclosed by the company for all its countries of operation. Only 4 of the sample companies[96] reported some of the financial data for all countries in which they operate. The remaining companies only disclosed some of the data for some of the countries. Companies in the basic materials and oil and gas industry had the highest transparency score. The research also found that there is a considerable level of variability and lack of consistency in the geographic information provided by the sample companies.

Both SFAS 131 and IFRS 8 require that companies provide external revenue and NCA information for their country of incorporation. Therefore, it is not surprising that the TI

[95] the difference between the spending of a government and its incomes from MNCs
[96] BHP Billiton, Rio Tinto, Statoil and Tesco

(2012) found that the sample companies disclosed a good level of data on their country of domicile. They argue that if the companies were able to provide a considerable level of disclosure for their country of domicile they should be able to do the same for their foreign operations. Murphy (2009) also argues that if it is technically possible for a company to collect and report information for its country of domicile it is technically possible to do the same for all the countries where the company operates. Multinational companies typically record and report financial information for each country where they have operating subsidiaries to comply with local tax and anti-bribery laws and to provide geographic information for the company's management for decision making. As a result, the companies have financial information on a CBC basis. In 2011, the EFRAG collected some evidence about the administrative costs that would be associated with the implementation of CBCR. 5 out of 7 MNCs that participated in their study indicated that all the information required for geographic disclosures on a CBC basis is available in their accounting system. Thus, the one-off costs on implementing (e.g. training to employees, IT system changes, documenting new business process and controls) and the ongoing costs (e.g. incremental cost of preparation, auditing, publishing of financial information) of complying with the new disclosure requirements would not be significant. (PWYP, 2005; EC, 2011; EFRAG, 2011; TI, 2012) However, even Murphy (2009) admits that there could be some additional direct cost (e.g. additional audit cost because the auditors might have to perform audit activities in additional foreign countries). Most of the MNCs still resist providing meaningful country-level information in their financial statements although country-level information is most likely readily available for MNCs or can be produced by them with little effort and costs. However, CBCR also could be associated with considerable level of implicit cost (e.g. proprietary cost: competitive harm, disadvantages etc.).

This part of the study introduces the regulatory background of country-level reporting and provides a summary of the impacts of the introduction of IFRS 8 on the sample UK listed companies' country-level disclosure.

8.2 The regulatory background

The original idea of CBCR was first presented in 2003 in a proposed IAS (Reporting Turnover and Tax by Location) made by Richard Murphy in cooperation with the

Association for Accountancy and Business. Based on the proposed standard MNCs should report external and internal sales, purchases, value of resources (labour and natural) used, value added, profit generated, and taxes on profit for each country in which the company operates. (Murphy, 2003) The proposed standard was submitted to the IASB while it was working on IFRS 6 Exploration for and Evaluation of Mineral Resources. The IASB issued IFRS 6 in December 2004, with little regard to the submission. (Gallhofer and Haslam, 2007)

Murphy's main partner in the CBCR campaign became the TJN. They joined the PWYP coalition and focused on IFRS 8. The PWYP coalition prepared a proposed standard on segmental reporting and submitted it to the IASB. The PWYP coalition (2005) argued in its proposal that shareholders, other capital providers of the company, management, employees, governments, local populations of countries in which MNCs operate and those with social concerns all would benefit of the adoption of their recommendation.

When reasoning for CBCR the PWYP coalition emphasised the value of CBCR to investors and argued that without CBCR market valuations might be distorted, cost of capital will be higher because of systematic risk (e.g. political risk related to a country, the companies taxpaying practice, compliance with the local regulations, the country dependence on the company, possible corruption, possible reputational risk from trading in the country etc.) and the markets will operate less effectively than they should. (PWYP, 2005)

The segmental reporting standard proposed by the IASB only required external revenue and NCA information to be disclosed for individually material countries. However, the PWYP coalition expected the disclosure of a relatively long list of items (external and internal revenue, third party costs, interest paid, profit before tax, current and deferred tax on profit, other taxes or charges due to the local government, payments made to the government, liabilities owing to the local government, deferred tax liabilities, gross and net assets employed, number of employees, employment costs, name of all subsidiaries, comparative data) for every country where the company operates. (PWYP, 2005)

The PWYP coalition (2005) emphasised that neither the Corporate Social Responsibility (CSR) report (voluntary, not always subject to audit, no standard for it) nor listing requirements (only applicable in a limited territory) could provide the necessary

information by country. Additionally, if the disclosure requirement were regulated by an IFRS it would mean that all companies should provide the information. Thus, none of the companies would suffer a competitive disadvantage by providing CBC information. (PWYP, 2005)

In January 2006 IASB issued ED8 (Operating segments) for public consultation. The PWYP coalition submitted 80 of the 182 comment letters received by the IASB.

> *"And what happened to this proposed standard? PWYP sent in the submission. 80 NGOs wrote in support of it. And the IASB ignored us. We asked for meetings. They said that was not possible. We offered to take them to places to show them the need. They did not respond. And in July they approved the standard they had promoted."* (Murphy, 2006)

The IASB treated the 80 comment letters related to the PWYP coalition as one item and considered CBCR as a CSR issue. (Crawford et al., 2012a) Although, the PWYP coalition asked the IASB to extend the scope of IFRS 8 with requirement of CBCR the IASB did not address this reporting issue in the new segmental reporting standard. (IASB, 2006a)

> *"The European Parliament …*
> *4. Expresses reservation as to the Commission's analysis that disclosure of geographic information would in practice not be reduced compared to IAS 14, and considers it vital that management continues to provide segmental information sufficient to allow users to assess the risk and drives of the business in terms of geography, where relevant country-by-country, …*
> *….*
> *8. Requests therefore that the Commission go beyond voluntary guidelines and support the development of an appropriate accounting standard requiring country-by-country reporting by extractive companies."* (EP, 2007)

The suggestion of the PWYP coalition was treated in the same way during the EU endorsement of IFRS 8. (EC, 2007) Although the EP accepted the EC's proposal to endorse IFRS 8 it also expressed that the disclosure of geographic information should not be reduced and supported that more detailed CBC disclosure should be developed for extractive companies. (EP, 2007)

> *"... countries are more likely to prosper when governments are accountable to their people. So we are leading a global effort to combat corruption which in many places is*

> *the single greatest barrier to prosperity, and which is a profound violation of human rights."* (Obama, 2010)

Not much happened until in July 2010 the USA Congress signed the Dodd-Frank Wall Street Reform Act. Section 1504 of this act requires CBC and project by project (PBP) reporting of payment to governments by all US listed companies in the oil and gas, and mining sectors (extractive industries). The detailed reporting requirements were published by the SEC on 22 August 2012. However, following a successful legal challenge by the American Petroleum Institute[97] the implementation of the SEC regulation is suspended.[98] (Jackson, 2013; PWC, 2013)

The US is not the only country which uses mandatory reporting to increase transparency. In September 2010, the EC agreed with the EP to evaluate the feasibility of CBC disclosures in the annual financial reports of MNCs. In October 2010 the EC started a public consultation to gather stakeholders' view on CBCR by MNCs. Beside the specific transparency obligation for companies in the extractive industry the EC also considered general CBCR by multinational companies. According to the EC the CBCR of these companies would (1) help investors to better assess the activities of multinational companies in different countries, and (2) enhance transparency about capital flows (e.g. taxation). (EC, 2010)

> *"... users need country-by-country reporting data because this data;*
>
> - *Adds essential information for the effective operation of capital markets to that available in existing financial statements.*
> - *Emphasises the duty of directors to exercise sound governance over the assets of which they have stewardship, including the decisions they make as to where to invest those assets and to undertake trade.*
> - *Ensures that all users of accounts receive the information that they require to appraise the performance of the reporting entity.*
> - *Provides essential information required by users of accounts which is not made available by existing International Financial Reporting Standards.*
> - *Provides that information, if delivered consistently across Europe, on as basis that ensures that comparison can be made between reporting entities, which is a key attribute essential to successful interpretation of financial data.*

[97] API argued e.g. that the public availability of the company's SEC report makes US companies less competitive

[98] 02.07.2013

- *Will increase the well-being of the people of Europe as a consequence of the enhanced return likely be made when directors of multinational corporations are held accountable for locating corporate investment in those places where their use is likely to be most advantageous."* (Murphy on behalf of the TJN, 2010, pp3-4)

Murphy and the TJN (2010) emphasised the importance of CBC data to investors and other financial statement users in their response to the questions asked by the EC in public consultation on CBCR by MNCs. The EC's recommendation for full CBCR was rejected during the consultation process. A majority of respondents (45%) and most preparers (65%) thought that no company should be targeted by CBCR at all. (EC, 2011) While users (Non-Governmental Organisations, NGOs; investors; taxation institute) and other respondents (public authorities) were in favour of the introduction of CBCR, preparers, accountants and auditors were in general against reporting on CBC basis. This later group of respondents argued that (1) sufficient transparency has already been provided by existing requirements (IFRS 8, Transparency Directive, Accounting Directives); (2) CBCR would be a competitive disadvantage for EU companies and it could affect the security of energy supply in the EU; (3) financial information should be regulated by global accounting standards and not by the EU; (4) CBCR can harm investors (by e.g. making financial statements more difficult to understand, revealing sensitive information about the company); (5) CBCR should not be in the companies' audited financial statements because it is rather a CSR than an accounting issue; (6) CBCR would not enhance tax governance (e.g. tax and accounting information based on different rules); (7) the cost of implementing and producing CBC information would be substantial (employment cost, professional and consultancy fees, changes in information systems) etc.. However, preparers from the extractive industry expressed the view that the domestic accountability and governance of resource-rich countries could be improved by CBCR. (EC, 2011)

> *"The reporting of payments to government by the extractive and logging industries will provide civil society with significantly more information on what specifically is paid by EU companies to host governments in exchange for the right to extract the relevant countries' natural resources."* (EC, 2013b)

On 12 June 2013 the EP voted in favour of new EU Transparency (2011/0307)[99] and Accounting (2011/0308) Directives. These new rules bring the EU rules into line[100] with similar extractive industry transparency rules in the US and requires EU listed and large privately owned extractive and logging companies to publish CBC and project-by-project (PBP) of all payment over €100,000[101] to governments. A number of countries (e.g. Canada, Norway and Switzerland) also announced that they establish new mandatory reporting rules for extractive companies. As a result the transparency *"regulations will cover 70 percent of extractive industries by market capitalisation".* (Balleny and Dowson, 2013)

Additional new transparency rules have been introduced on 26 June 2013 in the EU for the financial services industry in the Article 89 of CRD IV (Capital Requirements Directive 2013/36/EU). Credit institutions and investments firms resident in the EU should report annually the following information on CBC basis: (1) name of their establishment and the nature of its activity; (2) turnover; (3) number of full time employees; (4) profit before tax; (5) tax on profit or loss and (6) public subsidies received by all institutions which have an establishment in the EU. (EP, 2013a; EC, 2013a)

> *"On a report to be delivered by 21 July 2018 by the Commission, it will have to be considered the possibility of introducing an obligation requiring large undertakings to produce, on an annual basis, a country-by-country report for each member state and third country in which they operate, containing information on profits made, taxes paid on profits and public subsidies received. The report will take into account developments to increase transparency in financial reporting carried out at international level."* (EC, 2014, p2)

A proposal for extending the CRD IV requirements to all MNCs was rejected by the EP and the Council recently. However, the EC has to report back on CBCR on tax matters by 2018. (EC, 2014)

Profit transfer, tax avoidance, corruption etc. are not unique to the extractive industry and finance sector. When collecting enough revenue is a challenge for both poor and rich

[99] The Council of The European Union approved the updating of transparency requirements on 17 October 2013.
[100] with some exceptions e.g. the EU rules also apply to the logging sector and large unlisted companies incorporated in the EU
[101] $100,000 in the USA

governments (Gallhofer and Haslam, 2007) multinational companies all over the world transfer jobs and profit offshore (where income is exempt from taxation) and take advantage of cross-border loopholes to minimise their tax burden. This activity is harmful to governments (e.g. less tax income, higher enforcement cost), to individual tax payers (e.g. greater burden to generate tax income for the budget of the country), to businesses (e.g. reputation risk, unfair competition) and to local societies (e.g. not enough money in the central budget for proper healthcare, education, infrastructure etc.). (OECD, 2013a) Well known, profitable companies such as Apple, Google, and Microsoft in the US have used offshore tax loopholes to avoid paying taxes. (Levin, 2013) To stop this practice US senators Carl Levin and Sheldon Whitehouse introduced a bill in the Senate of the US on 11 February 2013[102]. Section 111 of the proposed Cut Unjustified Tax Loopholes Act (S.268) would require all multinational companies to disclose (1) a list of each country of operations; (2) the name of each entity in each country of operation; and (3) the number of employees, the total pre-tax gross revenues and the total amount of payments made to governments (taxes) on a CBC basis. Thus, the requirements of the new bill are similar to the CBCR requirements of CRD IV. (PWC, 2013) The acceptance of the proposed Act would be another major step towards the full CBCR.

Even more recently the G20 endorsed (July 2013, Moscow and September 2013, Saint-Petersburg) the OECD Action Plan on Base Erosion and Profit Shifting (BEPS). Action 13 in the BEPS calls on the OECD to re-examine transfer pricing documentation to improve transparency by developing a template for CBCR. (OECD, 2013a and 2013b)

Both the EU (Transparency and Accounting Directives, CRD IV) and the US (Dodd-Frank Act) have implemented CBCR to improve transparency in selected industries. The tax transparency initiative of the OECD and the Cut Unjustified Tax Loopholes bill in the US have the same objectives as these regulations but it is *"driven by concerns about the erosion of tax bases in various countries"* and therefore its main focus the collection *"of relevant information for tax administration of governments"*. (Deloitte, 2013) Questions like what should be reported on a CBC basis, what currencies should be used, how the information should be aggregated, what should be the reporting mechanism etc. still need to be discussed and answered in the upcoming OECD consultation process.

[102] the document is substantially similar to the bill introduced in the Senate in 2012

Table 8.1[103] compares the requirements of the current and proposed USA and EU regulations, IFRS 8 and the Full CBCR as proposed by Murphy and the TJN. With the exception of their special industry focus (extractive, logging and finance) the current legislative requirements are very close to the full CBCR. The proposed Cut Unjustified Tax Loopholes Act in the US and the planned additional template in the OECD transfer pricing documentation would further extend the detailed CBC requirements to all sectors.

> *"The rush to country-by-country reporting has begun."* (Murphy, 2013)

The EU, the USA and the OECD have already taken major steps towards CBCR and the introduction of mandatory CBC reporting rules has accelerated recently. However, the introduction of several, different rules is also a cause for concern. Only IFRS issued by the IASB can have global impact on the companies' financial reporting. Therefore, the question is, how does the IASB react to these developments?

> *"The Board will continue to examine the merits for a requirement of country-by-country disclosure as suggested by supporters of the Publish What You Pay campaign. A group of Board members will discuss this issue with other interested organisations."* (IASB, 2006a)

The IASB promised to revisit the issue of CBCR (e.g. IASB, 2006a; EC, 2007) For example, in a meeting between the IASB Trustees and representatives of PWYP (3 July 2007) the IASB agreed to reconsider CBCR during the revision of IFRS 6. (EC, 2007) In 2010 the IASB published a discussion paper and analysed the comment letters on accounting for extractive activities. (IASB, 2010b) However, the IASB did not add the extractive activities project to its active agenda and in December 2012 the project was discontinued[104].

[103] Based on:
- Dodd-Frank Wall Street Reform Act (2010) and related SEC regulation (2012)
- Transparency (2011/0307) and Accounting (2011/0308) Directives of the EU
- Capital Requirements Directive (2013/36) of the EU
- Cut Unjustified Tax Loopholes bill (2013/S.268)
- Murphy, R. on behalf of TJN (2010), Country-by-Country Reporting, Shining Light onto Financial Statements

[104] the IASB started a research project on intangible assets and claimed that aim of this new project to *"develop one set of requirements for investigative, exploratory and developmental activities across a wide range of activities"* (Deloitte, 2012)

Table 8.1 Summary of the requirements of the current and proposed USA and EU regulations, IFRS 8 and full CBCR as proposed by Murphy and the TJN (2010)

Regulation, Standard / Requirement	USA		EU		International Accounting (IASB)	Full CBCR
	Dodd-Frank Act + SEC regulation	**Cut Unjustified Tax Loopholes Act (proposed)**	**Transparency & Accounting Directives**	**CRD IV**	**IFRS8**	**Murphy & TJN**
Industry	Extractive	all industry	extractive & logging industry	credit institutions & investment firms	all industry	all industry
Listing status	US listed companies	US listed companies	EU listed & large unlisted companies	all institutions which has an establishment in the EU	listed companies	MNCs
Disclosure requirement	payments to governments (for the year in which payments are made) ▪ taxes ▪ royalties ▪ fess (licence, rental, entry fees) ▪ production entitlements ▪ bonuses (e.g. signature, discovery, production) ▪ dividends ▪ infrastructure improvements	▪ a list of each country of operation ▪ name of the entities in the country ▪ number of employees ▪ pre-tax gross revenue ▪ payments to governments (Federal, regional, local, and other tax; total amount of tax paid from the treasury)	payments made to governments	(a) name of the establishment and the nature of its activity and geographic locations (b) turnover (c) number of full time employees (d) profit before tax (e) tax on profit or loss (f) public subsidies received on a CBC basis	▪ external revenue ▪ NCA	▪ the name of each country of operation ▪ the name of all the companies in the country ▪ external and internal sales, purchases, financial costs ▪ labour costs and employee numbers ▪ pre-tax profit, net profit after tax ▪ the cost and NBV of the company's physical fixed assets ▪ the gross and net assets in total ▪ tax charge (current and deferred) ▪ tax paid to the government ▪ tax assets / liabilities ▪ deferred tax liabilities and ▪ for companies in the extractive industries benefits paid to the government by country

Table 8.1 (continued) Summary of the requirements of the current and proposed USA and EU regulations, IFRS 8 and full CBCR as proposed by Murphy and the TJN (2010)

Regulation, Standard / Requirement	USA		EU		International Accounting (IASB)	Full CBCR
	Dodd-Frank Act + SEC regulation	**Cut Unjustified Tax Loopholes Act (proposed)**	**Transparency & Accounting Directives**	**CRD IV**	**IFRS8**	**Murphy & TJN**
De-minimis / Reporting criteria	payment over $100,000	not mentioned	payment over €100,000	not mentioned	material	▪ the net value of tangible fixed asset increases by more than US$5 million or ▪ turnover plus financial income exceeds more than US$5 million in the jurisdiction in the reporting period ▪ turnover plus financial income in the jurisdiction exceeds 5% of the consolidated total ▪ any jurisdiction reportable in which upstream extractive industries activity occurs
Disclosure level	CBC (by country of operation) & PBP	CBC (by each member of the group in each country of operation)	CBC & PBP	CBC	CBC (the basis is the company's decision but need to be disclosed)	CBC (by country of operation)
Form	separate report (Form SD)	separate report (prescribed by the SEC & available to the public online)	separate report	Annual Report / Annex to the Financial Statements	Annual Report / Financial Statements	Annual Report / Financial Statements or published on the company's website
Audit	no need	not mentioned	no need	need to be audited	need to be audited	need to be audited
Frequency	annual	annual	annual	annual	annual	annual
First report	must be filed within 150 days of an issuer's first fiscal year ending after 30 September 2013 _ suspended by court decision	not applicable	Member States transpose the Directives into national law within two years of the Directive coming into force (probable applicable from 2016)	on 1 July 2014: (a)-(c) to the public; (d)-(f) to EC from 1 January 2015 (a)-(f) to the public (subject to the EC's impact assessment)	for periods beginning on or after 1 January 2009 (earlier application was permitted)	not applicable

> *"The agenda consultation* [2011] *revealed little support for such a project* [CBCR]*, and we do not plan to undertake any specific work on this topic."* (IASB, 2012, p13)
> *"In the light of this feedback* [2012] *the IASB has decided not to undertake proactive work in this area* [CBCR] *for the next two years. The IASB will review its priorities again in 2015."* (IASB, 2013a, p22)

During its first agenda consultation (launched on 26 July 2011) the IASB was asked to consider the introduction of CBC requirements into IFRS. In its Feedback Statement to the agenda consultation (18 December 2012) the IASB refused to undertake any work on this topic. In January 2013 the IASB organised a Discussion Forum on Financial Reporting Disclosure. During this Forum the IASB was asked again to consider adding CBR requirements to its agenda. It was refused again by the IASB. Thus, the IASB's viewpoint on CBCR has not changed in the last decade and it does not plan to carry out any work in this area. This is despite the relevant and significant changes introduced in the USA and EU.

Evers et al. (2014) argues that neither extended financial accounting standards nor separate CBCR templates can prevent MNCs from profit shifting because their tax minimisation strategies are based on legal exploitation of gaps and loopholes in different tax laws. Thus, CBCR cannot fight international profit shifting. They call for closing gaps in tax rules and using more standardised transfer pricing regulations at an international level. The authors argue that *"segmental reporting as … part of consolidated accounts does not deliver country-specific information …." "According to the management approach …, data is disclosed on a business-unit level, yet not necessarily on a geographic or even per-country basis."* (Evers et al., 2014, p9) However, Evers et al. (2014) do not mention the entity-wide disclosures where companies (should) provide country level financial information.

8.3 Research Objective and Research Question

Different stakeholder groups have different levels of success in incorporating their motivations in accounting standards. In the case of CBCR the preparers' motivations seem to drive the IASB. (Crawford et.al., 2012b) On the other hand, different legislative bodies (e.g. US Congress, EP) made a major step forward and mandate limited CBCR to

fulfil the needs of other stakeholder groups such as tax authorities, regulators, civil societies etc..

Preparers argue that enough transparency is provided by existing requirements (IFRS 8: geographic disclosure in the notes; Transparency Directive: review of the company's country risk exposure in the management report; Accounting Directives: identification of subsidiaries, jointly controlled entities and associates) (EC, 2011)

The question is whether the existing geographic disclosure requirements through IFRS 8 provide sufficient financial information and transparency for the different financial statement users. (RO_4)

$RQ_{4.1}$: Can individual country disclosure under IFRS 8 provide sufficient information and transparency?

8.4 Analysis of findings on country-level reporting

Results from previous Sections about the individual country disclosure of the sample companies is summarised in Table 8.2 (see the details in Chapter 6)

It is not in doubt that the introduction of IFRS 8 resulted in some positive changes in the companies' country level geographic disclosure (e.g. significant increase in the number of reported countries and in the proportion of revenues reported by country). However, many of the largest MNCs still do not provide country level geographic breakdown of their operations. Although IFRS 8 requires the disclosure of external revenue and NCA for the company's country of domicile and for the individually material foreign countries one fifth of the sample companies (N=222) do not provide any country-level information. Not even the external revenues attributed to the country of domicile is provided by these companies even though this is required. MNCs are even more reluctant to provide country level financial information about their foreign operation. Only 107 (76) companies disclosed revenue (revenue and NCA) information for at least one foreign country.

Table 8.2 Individual country disclosure facts

Sample	Facts
N=222	▪ the percentage of companies not providing country level information for at least one country decreased from 37.39% to 20.72%
	▪ the percentage of companies providing country level information for only one individual country decreased from 38.29% to 27.03%
	▪ the percentage of companies providing country level information for 2-5 individual countries increased from 21.17% to 45.49%
	▪ 40.54% of the companies increased the number of reported individual countries
	▪ more than half of the companies (53.60%) did not change the number of reported individual countries
	▪ the number of countries which were individually reported in the companies' financial statements increased from 44 to 66
N=155	▪ on average, companies disclosed significantly higher number of individual countries under IFRS 8 (2.77) than under IAS 14R (1.45)
	▪ being a constituent of the FTSE 100 index has significant effect on the number of countries reported under IFRS 8
	▪ the number of countries reported under IFRS 8 is significantly, positively correlated with the percentage of foreign revenues within total revenues
	▪ there is no significant relationship between the number of countries where the company has principal subsidiaries and the number of reported countries
	▪ the number of countries reported under IFRS 8 is positively correlated with the number of countries reported under IAS 14R
	▪ there is a significant, positive relationship between the companies' gearing ratio and the number of individual countries disclosed
	▪ only 5.81 % of the companies (9 companies) disclosed all of their revenues by individual countries
	▪ under IFRS 8 more than half (third) of the companies allocated more than 60% (80%) of their revenues to individual countries
	▪ the mean of the percentage of total revenue reported by country increased significantly from 44.45% to 61.52%
	▪ industry type has significant effect on the revenue percentage reported by country (Basic Materials, Industrials and Technology industries reported significantly lower % of their total revenues by individual countries than companies in the Utilities industry)
	▪ the greater the number of countries and tax haven countries where the company has principal subsidiaries the lower the percentage of total revenues reported by individual countries
	▪ most of the companies attributes revenues on the basis of the location of the customer (47.10%) and not on the basis of the origin (only 19.35%) of the revenues
	▪ 28.39% of the companies do not mention of their basis of revenue attribution
	▪ 72.26% of the companies report only external revenues and NCA for individual countries
	▪ only 27.74% of the companies disclosed one or more profit measure for the reported individual countries
	▪ the average number of items disclosed by country is 3.77

based on the findings in Chapter 6 and Chapter 7

Table 8.2 (continued) Individual country disclosure facts

Sample	Facts
N=155	▪ companies that provide their geographic information under geographic (7.80) or mixed (7.38) reporting segments disclose significantly higher number of items by country than companies that provide entity-wide geographic information
	▪ companies in the Customer Services (5.32) industry disclose significantly higher number of items by country than companies in the Basic Materials industry
	▪ only 107 (69.03%) companies disclosed revenue information for at least one foreign country
	▪ only 76 (49.03%) companies disclosed NCA information for at least one foreign country
	▪ 26.32% of the companies that disclosed both revenue and NCA information for at least one foreign country reported revenue and NCA in a different structure
	▪ the greater the number of countries where the company has principal subsidiaries the lower the percentage of total revenues reported by individual countries
N=126	▪ companies disclosed significantly lower number of items by individual countries under IFRS 8 (3.95) than under IAS 14R (5.49)
	▪ the proportion of companies that disclosed country level segment asset, capital expenditure, depreciation / amortisation, segment liability and profit measure disclosing companies decreased under IFRS 8
	▪ there is significant, negative correlation between the change in the number of individual countries reported and the change in the number of items disclosed by individual countries

based on the findings in Chapter 6 and Chapter 7

Although there is no significant correlation between the number of foreign countries with subsidiaries and the number of individual countries reported ($r_{N=155}$=0.032, $p_{N=155}$=0.689), both the number of foreign countries with subsidiaries ($r_{N=155}$=-0.382, $p_{N=155}$=0.000) and the number of tax haven countries with subsidiaries ($r_{N=155}$=-0.253, $p_{N=155}$=0.002) have significant negative effect on the proportion of the company's revenues reported by country. (Appendix C. 28, Appendix C. 29

Full country-level disclosure of financial information is very rare among MNCs. For example, there are only a few (9) companies (9/155→5.81%) which voluntarily allocate all of their revenues to countries in which the company operates or from which the company has revenues. (Table 8.3)

Unfortunately the introduction of IFRS 8 had some negative impacts as well on the companies' country level reporting. Under the new standard the companies disclosed significantly lower number of items by country because many companies stopped disclosing country level segment assets, capital expenditures, segment liabilities and profit measure information. The average number of items reported by countries under IFRS 8 is 3.77 but only external revenue (100.00%) and NCA (72.36%) are disclosed by

most of the companies. Items (profit measure, number of employees and labour costs, current and deferred tax charges, tax assets / liabilities, payments to local governments etc.) that could help to shed light on profit shifting, tax erosion, corruption gap etc. are only reported by a few companies or not reported at all. (see the details in Table 6.19 and Table 6.20) Thus, under their segmental reporting the companies do not provide the necessary information that would be welcomed by the different governmental bodies (e.g. tax authorities and central government) and CSOs. The value relevance and usefulness of the country level disclosures for investors also questionable since e.g. only a quarter of the companies provide any earning measures by country (Table 6.19) and only 56.77% (63.87%) of the companies disclosed more than 60% (50%) of their total revenues by individual countries. (Table 6.14)

Crawford et al. (2012a) provided some insight into difference in the segmental disclosures of the companies in different industries. The authors found that the mining sector was the only industry sector where the companies disclosed more items by segment under the management approach. Crawford et al. (2012a) argue that the pressure from the PWYP coalition *"may have encouraged mining companies to disclose more information."* (p30) However, the type of reporting segments (business, geo, mixed) is not mentioned. The authors also mentioned that under IAS 14R companies in the oil sector disclosed the most items by segments and the reported number of items was almost the same under IFRS 8.

The results of this study demonstrate that companies in Basic Materials (Oil and Gas) industry reported, on average, the lowest (second highest) number of items by country under both segment reporting standards. However, just like in every other industry the number of items disclosed by country decreased in these two extractive industries as well. (Table 8.4) Thus, it seems that the pressure from the PWYP coalition and other civil society organizations was not even enough to compensate for the decrease in the number of items disclosed by country that resulted from the change in the disclosure requirements.

Additionally, there is a strong negative correlation between the change in the number of countries reported and the change in the number of items disclosed for each country. Thus, the more the companies increased the number of their reported countries, the more they decreased the number of items disclosed for their individually reported countries. (Table 8.2)

Table 8.3 "Best practice" country-level disclosure examples

Company name	FTSE 100 / 250	ICB Industry	First adoption of IFRS 8	Single segment	Geographic information	No. of individual country reported	Revenue attributed to country by ...	No. of items disclosed by country
National Grid	FTSE 100	Utilities	31.03.2010	No	Mixed reporting segment	2	Customer location	6
Domino's Pizza UK & IRL	FTSE 250	Consumer Services	27.12.2009	No	Geo reporting segment	2	Origin	11
FirstGroup	FTSE 250	Consumer Services	31.03.2010	No	Both reporting segment & entity-wide information	3	Origin	3
Hochshild Mining	FTSE 250	Basic Materials	31.12.2009	No	Entity-wide information	11	Customer location	2
Howden Joinery	FTSE 250	Industrials	25.12.2010	Yes	Entity-wide information	2	Customer location	3
JKX Oil & Gas	FTSE 250	Oil & Gas	31.12.2009	No	Geo reporting segment	4	Customer location	8
Mitchells & Butlers	FTSE 250	Consumer Services	25.09.2010	Yes	Entity-wide information	2	Customer location	3
Northgate	FTSE 250	Industrials	30.04.2010	No	Both reporting segment & entity-wide information	2	Origin	9
Shanks Group	FTSE 250	Industrials	31.03.2008	No	Mixed reporting segment	4	Origin	7

Table 8.4 The number of items disclosed for each reported country by industry

Industry	No. of companies*	No. of items disclosed by country		
		IAS 14R	IFRS 8	Change
Basic materials	12	4.67	2.33	-2.34
From which: Mining	8	4.50	2.13	-2.37
Consumer Services	30	6.23	5.77	-0.46
Customer Goods	11	6.36	3.18	-3.18
Health Care	6	5.33	3.17	-2.16
Industrials	45	4.67	3.56	-1.11
Oil & Gas	4	8.25	4.25	-4.00
Technology	10	5.30	4.20	-0.80
Telecommunication	3	8.67	3.67	-5.00
Utilities	5	5.00	2.60	-2.40
Total	**126**	**5.49**	**3.95**	**-1.54**

*: N=126: country-level information disclosing companies both under IFRS 8 and IAS 14R

These results demonstrate the reluctance of companies to provide detailed and useful CBC information and are in line with the theory that increased disclosure requirement (disclosure of external revenue and NCA information for the country of domicile and for the individually material countries) can decrease the company's value relevant disclosure (less items disclosed, smaller proportion of the companies disclose earnings, capital expenditure etc.). (Nagarajan and Sridhar, 1996)

There is also some indication that the companies' tax avoiding behaviour affects the companies' country-level geographic disclosures. There is a significant negative relationship between the number of tax haven countries with subsidiaries and the proportion of the companies' revenues reported by countries. Thus, the more the company needs to hide, the less country-level information it provides. (Table 8.2)

8.5 CBCR and the application of materiality concept

What is disclosed in the companies' financial statements is limited by using the materiality concept because IFRS disclosure requirements only need to be applied to information that is material. Thus, companies only disclose countries which are material enough to be reported. (see Chapter 7) Whereas other countries that are judged to be immaterial can be aggregated to different geographic regions (e.g. continents, multi-

continents) or grouped to the ROW. The requirement to disclose information about all countries in the company's financial statements raises the concern that it could result in *"overly detailed and voluminous reports, which would obscure rather than provide any useful information to the users"*. (EFRAG, 2011, p10) For example, the number of foreign countries with principal subsidiaries of the sample companies in this study varies between 1 and 51[105]. (Table 8.5) Providing information for all 51 countries (which is more than a quarter of the number of the countries in the world)[106] clearly would increase the number of pages in the company's Annual Report but it is highly unlikely that it also would enhance the usefulness of the company's geographic disclosure. Most of these countries must be immaterial at least quantitatively (e.g. low attribution to the company's total external revenue, operating NCA in the country, capital expenditure invested in the country, contribution to the local government's budget, number of employees etc.). The Dodd-Frank Act and the EU's Transparency and Accounting Directives set certain threshold, de-minimis to reduce the disclosure burden on the companies and the information overload on the financial statement users. In their response to the questions asked by the EC during public consultation on CBCR by MNCs Murphy and the TJN (2010) also suggested that full CBCR (audited, detailed financial statement information) should only be required for countries that considered to be highly material[107]. They argue that it would require the disclosure of a limited number of countries which would provide relevant information to the users. However, a country which is quantitatively immaterial to the entity could be material for it in qualitative terms (e.g. material to the company's reputation) or could be material for the host country (e.g. economic dependence of the country on the company's investment). Therefore, it can be argued that the disclosure of the individual countries only should be limited by the appropriate application of the materiality concept.

IFRS 8 only requires the disclosure of the country of domicile and the material foreign countries and does not define quantitative materiality threshold to be applied. Thus, the

[105] Rentokil Initial

[106] 51/196=26.02%

[107] *"This requirements will exist if one of the following four situation arises:*

1. *Turnover plus financial income (...) in the jurisdiction exceeds US$5 million in the reporting period.*
2. *The net value of tangible fixed assets in the jurisdiction increases by more than US$5 million in the reporting period.*
3. *Turnover plus financial income in the jurisdiction exceeds 5% of the total consolidated turnover plus financial income of the reporting entity during the reporting period.*
4. *Any jurisdiction in which upstream extractive industries activity occurs."* (Murphy and TJN, 2010, p12)

companies have already applied the materiality concept when they decided which individual country they provide geographic information for in their segmental notes. The materiality judgement is made by the company's management and based on different quantitative and qualitative factors. While, the mean of the number of foreign countries with principal subsidiaries is 10.95 the mean number of individual countries reported (including the country of domicile) is only 2.77. (Table 8.5)

Table 8.5 Summary statistics for the number of foreign and tax haven countries with subsidiary, the number of individual countries reported and the revenue percentage reported by country under IFRS 8

	Number of			Revenue % reported by country
Statistics (N=155)	foreign countries with subsidiary	tax haven countries with subsidiary	individual countries reported	
Mean	10.95	1.53	2.77	61.52
Std. Deviation	10.45	1.77	2.19	28.82
Median	8	1	2	67.49
Minimum	0	0	1	1.19
Maximum	51	9	12	100.00

The country-level reporting of two big pharmaceutical companies well illustrates the different use of the materiality concept. *"AstraZeneca operates through 282 subsidiaries worldwide. Products are manufactured in 18 countries worldwide and sold over 100 countries."* (AstraZeneca Annual Report 2009, p186) The company reports external revenue[108] [109] for 12 countries out of the 15 countries where it has principal subsidiaries. GlaxoSmithKline Group has principal subsidiaries in 44 countries worldwide. However, it only reports external revenue[110] and NCA[111] information for two countries (the USA and the UK). 93.53% of AstraZeneca's external revenue is allocated to and reported by individual countries. Even the remaining 6.47% is allocated to continents or multi-continents by the company. Whereas, GlaxoSmithKline only reports 42.49% of its revenues by country and the remaining 57.51% is reported as ROW.

Only a few companies disclose information about the factors they considered during their materiality decision and the materiality threshold they applied. The previous example

[108] generated by companies located in that country
[109] and operating profit, profit before tax, NCA, total assets, assets acquired, net operating assets and revenue by geographic market for its country of domicile and foreign countries
[110] by location of customer
[111] by location of asset

and the results in Chapter 7 indicate that the companies' materiality judgement varies significantly. It means that the application of materiality concept itself could result in very different country-level reports (e.g. quantitative materiality threshold applied, disclosure of revenue / NCA for different countries etc.) and could undermine the transparency, consistency and comparability of the country level reporting of the companies.

8.6 Discussion and conclusion

In summary, the results of this study indicate that (1) the fact that IFRS 8 only requires the disclosure of revenue and NCA for the country of domicile and for the material foreign countries, (2) the way the MNCs apply the materiality concept to define countries that need to be individually disclosed and (3) the companies' preference to keep geographic information at a minimum level (non-compliance with the requirements of IFRS 8; low level voluntary information) result in a relatively poor level of audited country level information even among the largest listed companies.

Whether the positive effect of the more detailed country level information or the negative effect of the less detail about the reported countries (in most of the cases only revenue and NCA) is the greater, is a question to answer in further studies. However, the results clearly indicate that the companies' current geographic segment reporting practice, in general, is very far from the idea of full CBCR. The preparers are more likely secretive and hold back country level information by repeatedly claiming the high costs of implementing and producing country-level information, the competitive harm and disadvantages caused by country level information and the difficulty of understanding financial statements with detailed country-level information in them. To date, none of these arguments have been proven by studies.

Preparers and the IASB also claimed that enough information and transparency is provided under the existing requirements of IFRS 8 and any further country level information is subject to CSR reporting. However, the findings of this study and the fact that legislative bodies in the US and in the EU had to bypass the IASB and issue CBCR related new regulations indicate that the country level requirements of IFRS 8 and the country level information provided by the companies in their segmental notes are not sufficient and transparent enough.

The recent legislative actions in the USA and in the EU are the first but major steps towards full CBCR. However, their limitations (only covers selected industries, requires a limited number of items on a CBC basis and only compulsory in the EU / USA) reduces their potential values and usefulness to stakeholders. Policy decision made by the G20 and the proposed Cut-Unjustified Tax Loopholes Act in the USA are further major steps in the direction of full CBCR. The impacts of these new regulations on the companies' country level geographic disclosure is an area for further research.

The pressure is now on the IASB. To ensure the same reporting requirement for entities worldwide and to increase transparency and the availability of important geographic financial information, to enhance consistency and to help the comparison CBCR needs to be considered by the IASB and should be addressed in international accounting standards. As Murphy and the PWYP coalition suggested in 2005, the best place to deal with CBCR would be IFRS 8.

Chapter 9 Conclusions, Limitations and Further Research

9.1 Introduction

This chapter presents the main findings and conclusions of the present thesis. Section 9.2 summarises the research objectives and questions and outlines the research methods followed in the study in order to reach the research objectives and answer the research questions. Section 9.3 presents the concluding comments that emerged from the findings of this thesis. Section 9.5 deals with the limitations of the study and sets out suggestions for further research.

9.2 Summary of Research Objectives, Questions and Methods

This research sought to make a contribution to the relevant accounting literature concerning

- the compliance with the requirement of IFRS 8 (RO_1);
- the impact of the introduction of IFRS 8 on the quality of the companies' geographic disclosure (RO_2);
- the application of the materiality concept in defining the company's individually material countries (RO_3);
- the sufficiency and transparency of the companies' existing country-level disclosures (RO_4) and
- the corporate disclosure theories via the investigation of the effect of different company characteristics on (1) the level of compliance with the requirement of IFRS 8 (RO_1), (2) the quality of geographic disclosures (RO_2) and (3) the materiality threshold applied by the companies in defining the company's individually material countries (RO_3). (Chapter 3)

The following research questions were formulated and answered to achieve the research objectives:

$RQ_{1.1}$: What is the level of compliance with the segmental reporting requirements of IFRS 8?

$RQ_{1.2}$: What company characteristics are associated with the extent of compliance with the disclosure requirements of IFRS 8?

$RQ_{2.1}$: Did the quality of geographic disclosures improve under IFRS 8?
$RQ_{2.2}$: What company characteristics drive secrecy and support openness?

$RQ_{3.1}$: To what extent do companies disclose information about their materiality judgment (how and why is an individual country determined to be material)?
$RQ_{3.2}$: What quantitative and qualitative thresholds are used to determine the materiality of individual countries?
$RQ_{3.3}$: What company characteristics affect the companies' materiality decision?

$RQ_{4.1}$: Can individual country disclosure under IFRS 8 provide sufficient information and transparency? (Chapter 3)

To provide answers to the research questions, data for a sample of 222 listed companies (FTSE 350) were collected and analysed using different statistical methods. (Chapter 4) The results of the statistical analysis were used to draw conclusions and critically evaluate the companies' segmental disclosure practice under IFRS 8. (Chapter 5, Chapter 6, Chapter 7 and Chapter 8)

9.3 Summary of findings of the study

9.3.1 Summary of findings

Discussion and summaries of the research findings and concluding comments were provided at the end of Chapter 5, Chapter 6, Chapter 7 and Chapter 8. The most important findings and comments from these chapters are summarised in this section.

9.3.2 Compliance with the requirements of IFRS 8[112]

The results in Chapter 5 reveal that there is substantial non-compliance with the entity-wide disclosure requirements of IFRS 8. Previous research has highlighted the importance of enforcement in increasing compliance with IFRSs. (Street and Bryant, 2000; Glaum and Street, 2003; Prather-Kinsey and Meek, 2004; Hodgdon et al., 2009)

[112] RO_1; Chapter 5

The findings of this study suggest that enforcement is still an issue and there is scope for the companies to increase their degree of compliance with the segment reporting requirements of the standard. Increased compliance with the requirements of the standard could improve (1) the companies' segmental disclosures and (2) the comparability across entities. ($RQ_{1.1}$)

The results also indicate that the extent of compliance varies significantly. The present study identified several factors that affect the companies' compliance with the requirements of IFRS 8. Propositions of enforcement, agency, proprietary, political cost and signalling theories can provide the basis for interpreting these findings.

First, the evidences suggest that the identity of the auditor is the most important determinant in explaining the level of compliance with the segmental reporting requirements of IFRS 8. Thus, the audit quality (measured by the extent of compliance) provided by the BIG 4 audit companies seems to be different. Therefore, the results suggest that the BIG 4 companies should not be treated as a homogenous group of auditors. ($RQ_{1.2}$)

Additionally, the findings reveal that the overall level of compliance and the level of compliance with the entity-wide requirements of the standard is significantly greater for companies organised around different products and services (business reporting segments) or a combination of different products, services and geographical areas (mixed reporting segments) compared to companies organised around different geographical areas (geographic reporting segments). It raises the question whether the companies intentionally use geographic reportable segments to conceal information from their stakeholders including shareholders (agency cost), from their competitors (proprietary costs), and from tax authorities (political costs). ($RQ_{1.2}$)

Furthermore, the level of compliance with the reporting segment requirements is significantly greater for early adopters. These findings suggest that the early adopter companies use their annual report to signal to the market, their stakeholders (e.g. their legitimacy, accountability) and distinguish themselves from their competitors. It also can indicate that these companies and their auditors might had been aware of and prepared for the requirements of the new standard (e.g. because of the company's US listing). ($RQ_{1.2}$)

Additionally, the relatively high level of non-compliance with the entity-wide requirements of the standard and the considerable variance between the levels of compliance of the individual companies raise concerns about the successfulness of the convergence of the accounting standards (copying the SFAS 131) and the quality and comparability of the financial statements.

9.3.3 Quality of the companies' geographic disclosures[113]

The results of the analysis in Chapter 6 suggest that the introduction of IFRS 8 has both positive (e.g. more than 40% of the companies increased the number of their reported individual countries; the companies disclosed significantly higher number of geographic locations and countries; the companies disclosed significantly higher proportion of their revenues by country etc.) and negative (e.g. the proportion of revenues reported by "ROW" increased; the companies disclosed significantly lower number of items by countries; the use of broad, vague geographical areas remained a problem, etc.) impacts on the geographic disclosure practice / quality of the companies. These results reinforce previous research findings and indicate that the companies' geographic disclosure quality cannot be measured / described by only one quality measure. ($RQ_{2.1}$)

Research results in Chapter 6 indicate that companies stick with their *"disclosure position"* and a high proportion of the sample companies did not change or did not change significantly their geographic disclosure practice under the new standard. Furthermore, even if a company changed its reporting practice the change did not necessarily improve the company's disclosure quality. These results are in line with the argument of Gibbins et al. (1990) that the management only changes the company's disclosure if it is advantageous for the company (opportunism). Thus, the results seem to indicate that it is not in the interest of a relatively high percentage of the sample companies to change geographic disclosure practice and provide better quality geographic information. ($RQ_{2.1}$)

Considerable variation was found in the companies' geographic disclosure quality both under IAS 14R and IFRS 8. The results indicate that none of the studied company

[113] RO_2; Chapter 6

characteristics had a significant effect on all of the quality measures. The findings suggest that companies that are more visible internationally (higher percentage of foreign revenues in total revenues; higher number of foreign countries with subsidiaries; higher number of subsidiaries in foreign countries) report greater number of geographic locations. However, they also tend to report lower percentage of their revenues by countries. Therefore, the fineness of the geographic information provided by them tends to be lower as well. As the number of foreign revenue generating countries increases, it is probably less likely that (1) a particular country meets the company's materiality threshold and (2) revenues from this country are reported individually. On the other hand, the lower quality geographical information (lower percentage of the revenues reported by country, lower fineness scores) could indicate that internationally more visible companies might prefer to hold back country level information to conceal the company's activity in those countries. This could reduce their political and proprietary costs and hide the management's activity from the shareholders and debt providers (e.g. poorly performing countries, management's empire building plans). ($RQ_{2.2}$)

Although, there is some indication that the companies' tax (avoiding) policy (proxied by the number of tax haven countries with subsidiaries and the number of subsidiaries in tax havens) might have an impact on the companies' geographic disclosure practice / quality (significant negative correlation between the number of tax haven countries with subsidiaries and the fineness score / revenue percentage reported by countries; significant negative correlation between the number of subsidiaries in tax havens and the fineness score) the results are not conclusive. ($RQ_{2.2}$)

9.3.4 Application of the materiality concept[114]

The disclosure of an individual country depends on the preparer's materiality decision. The results in Chapter 7 indicate considerable levels of inconsistency in the preparers' materiality judgements. Thus, the flexibility provided for the companies on the identification of individually reportable countries resulted in a wide variety of disclosure practices. ($RQ_{3.2}$)

[114] RO_3; Chapter 7

The results indicate that certain company characteristics have a significant effect on the companies' decision whether to report individual country disclosure or not. Companies which are FTSE 250 constituents, not US listed, internationally less visible (lower revenue percentage from abroad, lower number of subsidiaries in foreign countries) and are organised around geographic areas or a mixture of geographic and business areas are more likely to hold back their country level revenue / NCA information. ($RQ_{3.2}$)

One can argue, that information relating to quantitatively relatively immaterial countries (e.g. 5%, 5-10% of the revenues and / or NCA) will not significantly improve the financial statement users' understanding about the risks and rewards of the company's activities in different countries. The question is whether there is a need for a minimum threshold set either in IFRS 8 or in a general materiality standard. About a quarter (half) of the companies reported individual countries with less than 5% (10%) contribution to the company's total revenues / NCA. This more detailed, seemingly immaterial information could be valuable for financial statement users such as civil societies, tax authorities etc. and in most of the cases this is the only available information about the companies' activities in different foreign countries. Additionally, the reported countries might not seem to be quantitatively material but they still can be material in qualitative terms. On the other hand, even if a minimum threshold is set standards and guidelines do not offer an upper limit of applicable materiality thresholds (e.g. *"10 per cent or more"*, IFRS 8:13 and 34). A quarter (two fifths) of the sample companies used revenue (NCA) materiality threshold 20% or more. These companies simply might not have any other country with smaller revenue / NCA contribution. Other individually relatively immaterial countries with more or less the same qualitative characteristics (e.g. risk and rewards, general economic and political environment etc.) might have been grouped together and reported under a geographic region (e.g. Eastern Europe, Western Europe, North America etc.) In summary, it seems that both preparers and users of financial statements might be better off if the company's country level disclosures are not guided by materiality thresholds set in standards but by the proper application of the materiality concept. ($RQ_{3.2}$)

Country-level data from the companies' segmental notes documents the inconsistency between the companies' materiality decisions. The materiality threshold applied by the sample companies varies considerably. This result indicates that the companies do not apply a general quantitative benchmark such that countries that contribute more (less) than a certain percent of the total revenues / NCA are always material (immaterial).

However, with the exception of early adoption none of the studied company characteristics had a significant effect on the materiality threshold applied by the companies. Early adopter companies are not just ahead of other companies in the application of the new standards but they use a significantly lower level materiality threshold as well. These companies might use early adoption and lower materiality thresholds to (1) signal to the market and to different stakeholders and (2) differentiate themselves from their competitors. The results suggest that there could be factors, not studied in this research that might be more important in the preparers' materiality decisions. These factors could be both quantitative (e.g. the individual country's contribution to the companies' total earnings, capital expenditure percentage allocated to the country etc.) and qualitative (e.g. stability of the foreign currency, political risks of the individual country, the company's tax policy etc.) ones or they could be simply incentives of the company's management (e.g. the management's personal empire building plans). ($RQ_{3.3}$)

Only the preparers know what is behind their materiality decision. However, the research results in Chapter 7 indicate that only a few companies disclosed information about the quantitative materiality threshold applied and none of them disclosed information about the qualitative factors considered in assessing the materiality of an individual country. The results of the analysis of the country disclosures indicate that the preparers' materiality decisions are probably based on both quantitative and qualitative considerations. Thus it would be useful to have additional disclosure about the quantitative and qualitative aspects considered by the companies when they set their materiality threshold (e.g. the use of lower materiality threshold because the company has operations in countries with higher political, exchange risks or because in the near future the company is going to expand of its production and / or sales operation in that country etc.). ($RQ_{3.1}$)

The empirical findings provide evidence that the companies use both the flexibility provided by IFRS 8 and the shield of the materiality concept when they make materiality decision about their individually material, therefore reportable countries. Greater transparency and detail about the companies' materiality decision would reduce the uncertainty and would enhance the understanding of the companies' segmental notes.

9.3.5 Country-level reporting[115]

In the last decade there have been calls to require MNCs to disclose information about their activities in those countries where they have operation. However, to date with the exception of the IFRS 8 requirement to disclose external revenues and NCAs for individually material countries and for the country of incorporation MNCs are not required to disclose financial information on a CBC basis in their audited financial statements.

Chapter 8 introduces the regulatory background of country-level reporting and provides a summary of the impacts of the introduction of IFRS 8 on the sample UK listed companies' country-level disclosure. In summary, the results indicate that (1) the fact that IFRS 8 only requires the disclosure of revenue and NCA for the country of domicile and for the material foreign countries, (2) the way the MNCs apply the materiality concept to define countries that need to be individually disclosed and (3) the companies preference to keep geographic information at a minimum level (non-compliance with the requirements of IFRS 8, low level voluntary information) result in a relatively poor level of audited country level information even among the largest listed companies.

Whether the positive effect of the more detailed country level information or the negative effect of the less detail about the reported countries (in most of the cases only revenue and NCA) is the greater, is a question to answer in further studies. However, the results clearly indicate that the companies' current geographic segment reporting practice, in general, is very far from the idea of full CBCR. The preparers are more likely secretive and hold back country level information.

The preparers and the IASB claimed that enough information and transparency is provided under the existing requirements of IFRS 8 and any further country level information is a subject for CSR reporting. However, the findings of this study and the fact that legislative bodies in the US and in the EU had to bypass the IASB and issue CBCR related new regulations indicate that the country level requirements of IFRS 8 and the country level information provided by the companies in their segmental notes are not sufficient and transparent enough.

[115] RO_4; Chapter 8

The recent legislative actions in the USA and in the EU are the first but major steps towards full CBCR. However, their limitations (only covers selected industries, requires a limited number of items on a CBC basis and only compulsory in the EU / USA) reduces their potential values and usefulness to stakeholders. The policy decision made by the G20 and the proposed Cut-Unjustified Tax Loopholes Act in the USA are further major steps in the direction of full CBCR. The impacts of these new regulations on the companies' country level geographic disclosure is an area for further research.

To ensure the same reporting requirement for entities worldwide and to increase transparency and the availability of important geographic financial information, to enhance consistency and to help the comparison CBCR needs to be considered by the IASB and should be addressed in international accounting standards. ($RQ_{4.1}$)

9.4 Contribution of the study

The present study contributes to the accounting literature in several areas and may be of benefit to many groups of users of financial statements.

The study complements and extends the existing research on (1) the compliance with the requirements of IFRS 8 (RO_1, Chapter 5); (2) the impact of the introduction of IFRS 8 on the quality of the companies' geographic disclosures (RO_2, Chapter 5); (3) the application of the materiality concept in defining the company's individually material countries (RO_3, Chapter 7); (4) the sufficiency and transparency of the companies' existing country-level disclosures (RO_4, Chapter 8) and (5) the corporate disclosure theories via the investigation of the effect of different company characteristics on (a) the level of compliance with the requirement of IFRS 8 (RO_1, Chapter 5), (b) the quality of geographic disclosures (RO_2, Chapter 6) and (c) the materiality threshold applied by the companies in defining the company's individually material countries (RO_3, Chapter 7)

Extensive research was carried out in the US after the introduction (1997) of SFAS 131. IFRS 8 became mandatory for periods beginning on or after 1 January 2009. However, scarce empirical evidence is available regarding the application and impact of IFRS 8 on the companies' segmental disclosures. This study contributes to the accounting literature

by providing empirical evidence on this topic. (Chapter 5, Chapter 6, Chapter 7 and Chapter 8) Additionally, the findings of this research can help to facilitate informed debate on the ongoing issues (Section 2.2) regarding the costs and benefits of applying IFRS 8 by increasing the understanding of how the requirements of this new standard are applied by the sample companies. (Chapter 5, Chapter 6, Chapter 7, Chapter 8)

By answering the research questions the study (1) fills research gaps identified by the researcher (Section 2.5) and also (2) addresses calls for research on (a) the compliance with the requirements of IFRS 8 (Chapter 5); (b) the effectiveness of auditors in enforcing IFRS 8 compliance (Chapter 5); (c) the possible incentives behind the geographic disclosure decisions of the preparers (Chapter 5, Chapter 6, Chapter 7 and Chapter 8); (d) the application of the materiality concept (in defining the individually material countries, Chapter 7) (Nichols et al., 2013) and (e) the connection between the company's financial reporting practice and their tax reporting behaviour (Hanlon and Heitzman, 2010) (Chapter 6).

The research provides useful findings for researchers and academics with an interest in corporate disclosure in general and segmental reporting and audit quality in particular. First, the result in this study highlights that the BIG 4 audit companies should not be treated as a homogenous group in accounting research. (Chapter 5) Second, the results from this study reinforce previous research findings and indicate that the geographic disclosure quality of the companies cannot be measured / described by only one quality measure. (Chapter 6) Third, researchers should consider the company's organisational structure (proxied by the type of the company's reportable segments) as a factor which might have a significant influence on the segmental disclosure quality of a company (Chapter 5, Chapter 6 and Chapter 7).

Furthermore, the findings of this thesis could provide useful input to (1) the work of different enforcement bodies (Chapter 5), (2) the IASB's present work on financial reporting disclosure and materiality (Chapter 6 and Chapter 7), (3) different civil societies (e.g. TJN, PWYP), governmental (e.g. EU, UK) and non-governmental bodies (e.g. OECD) in their fight for country-level disclosures and against profit shifting and tax avoidance (Chapter 8) and (4) investors when they evaluate the risks and rewards

associated with diversified companies and make informed economic decisions (Chapter 5, Chapter 6 and Chapter 7).

Lastly, to the best of the author's knowledge, this is the first academic study which (1) provides insight into how the companies apply the materiality concept in defining their individually material countries under IFRS 8 and (2) tries to identify different company characteristics that can help to explain the diversity of the companies' materiality decisions. (Chapter 7)

9.5 Limitations and further research

The limitations of the study and suggestions for future research are presented in Section 9.5.1 and in Section 9.5.2.

9.5.1 Limitation of the research

The findings of this study have to be interpreted with caution because they are subject to the following limitations.

Different regression models were used to test the hypotheses in Chapter 5. Company characteristics that could be justified both theoretically and empirically were included in these regression models. However, the relatively low explanatory power of the regression models indicates that the companies' compliance with the disclosure requirements of IFRS 8 might be influenced by characteristics not included in the regression models (omitted independent variables). For example, ownership structure, Audit Committee quality might also explain the variability of compliance. Additionally, various other proxies of the different independent variables might have a more / less significant effect on the dependent variables. For example, in the regression model international visibility is measured by the number of foreign subsidiaries of the company but it also could have been measured by e.g. the % of foreign sales. However, non-availability of some information[116] did not allow their introduction into the model. Furthermore, alternative modelling (e.g. logistic regression, the use of robust regression estimators) might provide

[116] for all of the sample companies

additional information about the relationship between the companies' compliance indices and their possible determinants.

Additionally, the scoring process used in Chapter 5 is subject to judgement. Thus, the use of a disclosure index to measure level of compliance is always limited by a degree of subjectivity.

The compliance index analysed in the study is based on a check list constructed by the researcher. Additionally, the fineness score used to measure the quality of the companies' geographic disclosures is a modified version of the fineness score first applied by Doupnik and Seese (2001). Therefore, comparability of the results with those reported in other studies need to be considered. (Chapter 5, Chapter 6)

The data used in this study were hand collected from the sample companies' Annual Reports. Therefore, there might unquestionably be data collection errors.

> *"Some investors prefer to have information about how management views the business, …" …. "Other investors, however, are wary of a segmentation process that is based on the management perspective. Those investors mistrust management's intentions and sometimes think that segments are reported in such a way to obscure the entity's true management structure (often as a result of concerns about commercial sensitivity) or to mask loss-making activities within individual segments."* (IASB, 2013b, p5)

The research used segment disclosures provided by the companies in their Annual Reports. However, preparers have discretion in providing segment information. Users of financial statements – including the researcher – cannot examine whether all segments used internally, all individual countries with material foreign revenues, all major customers etc. has actually been disclosed in the financial statements of the companies. Even auditors *"wouldn't be able to argue with what managements were sharing...". "They would say they were showing you what they usually looked at."* (Tim Bush in Sarah Perrin's article, 2012) (Chapter 5, Chapter 6, Chapter 7, Chapter 8)

The sample is not randomly selected. The research examined non-financial companies listed on the London Stock Exchange. It is not known whether the results are similar to financial companies listed on the London Stock Exchange and / or non-financial

companies listed in other countries. Therefore, it is not claimed that the results are generalizable to those companies. (Chapter 5, Chapter 6, Chapter 7, Chapter 8)

9.5.2 Future research

The results and limitations suggest opportunities for further research. The study focused on the first year of the implementation of IFRS 8. It would be interesting and useful to carry out the same analysis a few years from now to examine whether (1) the companies' compliance with the disclosure requirements of IFRS 8 and (2) the quality of the companies' geographic disclosures has improved since the first adoption and (3) whether the findings of this study still hold.

222 non-financial FTSE 350 constituents represent the original sample for the study. Future research could explore data collected for more countries. There might be significant country specific determinants (e.g. secrecy, regulatory background, enforcement) of the segmental disclosure practice of the companies.

IFRS 8 is almost identical to its US counterpart, SFAS 131. Concerns were raised during the IASB's due process and during the EU endorsement process that the convergence of accounting rules should not be a simple copying activity of the American accounting standard. The results of this study suggest a certain level on non-compliance with the requirements of IFRS 8 in the UK. (Chapter 5) A study comparing the level of compliance of American and EU (UK and continental EU) companies with the segmental reporting requirements could provide some indication whether the convergence of accounting standards eventually resulted in the convergence of accounting practices as well.

The results indicate that the introduction of IFRS 8 has both positive and negative impacts on the quality of the companies' geographic disclosures. However, whether the positive effects of the new standard on the usefulness of the geographic disclosures outweigh the negative effects of the new standard on the usefulness of geographic disclosures is a subject for further research. (Chapter 6, Chapter 8)

The thesis found some connection between the companies' geographic reporting practice and their tax avoiding behaviour. (Chapter 6) Hanlon and Heitzman (2010) argue that *"the relevance of tax research will increase as governments try to close the tax gap, increase compliance, and collect more revenue."* (p168) Further research on the subject (e.g. more than one year data from different countries) could provide important help for the different governments, international bodies in their fight against profit shifting and tax avoidance.

In spite of the limitations, the results of this research might be of interest to users, preparers and auditors of the companies' segmental disclosure, as well as the regulators and enforcement bodies. Findings of the research could provide input to (1) the work of the different enforcement bodies (Chapter 5), (2) the IASB's present work on financial reporting disclosure and materiality (Chapter 6 and Chapter 7), (3) different civil societies (e.g. TJN, PWYP), governmental (e.g. EU, UK) and non-governmental bodies (e.g. OECD) in their fight for country-level disclosure. (Chapter 8)

Chapter 10 Appendices

Appendix A Appendices to Chapter 4

Appendix A. 1 Companies in the samples

No.	Name of the company[117]	Sample size (N)[118]							
		222	200	178	155	126	107	76	42
1	Aggreko	X[119]	X	X					
2	AMEC	X	X	X	X	X	X	X	
3	Anglo American plc	X	X	X	X	X	X	X	X
4	Antofagasta	X	X	X	X	X	X	X	X
5	ARM Holdings	X	X	X	X	X	X	X	X
6	Associated British Foods	X	X	X	X	X			
7	AstraZeneca	X		X	X	X	X		
8	Autonomy Corporation	X		X	X				
9	BAE Systems	X	X	X	X	X	X	X	
10	BG Group	X	X	X	X		X	X	
11	BHP Billiton	X	X	X	X	X	X	X	X
12	BP	X	X	X	X	X	X	X	X
13	BT Group	X	X	X	X	X			
14	British American Tobacco	X	X	X	X		X		
15	British Sky Broadcasting	X							
16	Burberry Group	X	X	X	X	X	X		
17	Cairn Energy	X	X	X					
18	Capita Group	X	X	X	X	X			
19	Carnival plc	X	X	X					
20	Centrica	X	X	X	X	X	X	X	
21	Compass Group	X	X	X	X	X	X		
22	Diageo	X	X	X	X	X	X	X	
23	Eurasian Natural Resources	X	X	X					
24	Experian	X	X	X	X	X	X	X	
25	Fresnillo	X	X						
26	G4S	X	X	X	X	X	X		
27	GKN	X	X	X	X		X	X	
28	GlaxoSmithKline	X	X	X	X	X	X	X	X
29	IMI	X	X	X	X	X	X	X	X
30	ITV	X	X	X	X	X			
31	Imperial Tobacco Group	X	X	X	X		X	X	
32	Inmarsat	X	X	X					
33	InterContinental Hotels Group	X	X	X	X		X	X	
34	International Power	X	X	X	X	X	X	X	X
35	Intertek Group	X	X	X	X		X	X	
36	Johnson Matthey	X	X	X	X		X	X	
37	Kazakhmys	X	X	X					
38	Kingfisher	X	X	X	X	X	X	X	X
39	Lonmin	X	X	X	X	X	X	X	X
40	Marks & Spencer Group	X	X	X	X	X			
41	Wm Morrison Supermarkets	X							
42	National Grid	X	X	X	X	X	X		
43	Next	X	X	X	X	X			
44	Pearson	X	X	X	X		X	X	

[117] FTSE 100 constituents: No. 1-73; FTSE 250 constituents: No. 74-222

[118] N=222 and N=200: Chapter 5, Table 5.6; N=178 and N=155: Chapter 6, Table 6.1; N=126: Chapter 6, Section 6.4.2; N=107 and N=76: Chapter 7, Table 7.1; N=42: Chapter 7, Section 7.6.3

[119] X: the company is in the sample

Appendix A. 1 (continued) Companies in the samples

No.	Name of the company	Sample size (N)							
		222	200	178	155	126	107	76	42
45	Petrofac	X	X	X	X		X	X	
46	Randgold Resources	X	X						
47	Reckitt Benckiser	X	X	X	X		X	X	
48	Reed Elsevier	X	X	X	X	X	X		
49	Rexam	X	X	X	X	X	X	X	X
50	Rio Tinto Group	X	X	X	X	X	X	X	X
51	Rolls-Royce Group	X	X	X	X	X	X	X	X
52	Royal Dutch Shell	X	X	X					
53	SABMiller	X	X	X	X	X	X	X	X
54	Sage Group	X	X	X	X	X			
55	Sainsbury's	X	X						
56	Scottish and Southern Energy	X	X	X	X	X			
57	Serco Group	X	X	X	X	X	X	X	
58	Severn Trent	X	X	X	X	X	X	X	X
59	Smith & Nephew	X	X	X	X	X	X	X	X
60	Smiths Group	X	X	X	X	X	X	X	
61	Tate & Lyle	X	X	X	X	X	X	X	
62	Tesco	X	X	X	X	X	X		
63	Tullow Oil	X	X	X					
64	Unilever	X	X	X	X		X	X	
65	United Utilities	X	X						
66	Vedanta Resources	X	X	X	X	X	X	X	X
67	Vodafone Group	X	X	X	X	X	X	X	X
68	WPP Group	X	X	X	X	X	X		
69	Weir Group	X	X	X	X	X	X	X	X
70	Whitebread	X	X						
71	Wolseley	X	X	X	X	X	X		
72	John Wood Group	X	X	X	X		X		
73	Xstrata	X	X	X					
74	Aegis Group	X	X	X	X		X	X	
75	Afren	X	X	X					
76	Anglo Pacific Group	X	X						
77	Aquarius Platinum	X	X	X					
78	Ashtead Group	X	X	X	X	X			
79	WS Atkins	X	X	X	X	X			
80	Aveva	X	X	X	X				
81	Avis Europe	X	X	X	X	X	X	X	X
82	BBA Aviation	X	X	X	X	X			
83	BTG	X	X	X	X	X	X		
84	Babcock International	X	X	X	X	X			
85	Balfour Beatty	X	X	X	X		X	X	
86	A.G. Barr	X	X	X	X	X			
87	Barrat Developments	X	X						
88	Bellway	X							
89	Berendsen	X	X	X	X	X			
90	Berkeley Group Holdings	X							
91	Bodycote	X	X	X	X		X		

Appendix A. 1 (continued) Companies in the samples

No.	Name of the company	Sample size (N)							
		222	**200**	**178**	**155**	**126**	**107**	**76**	**42**
92	Booker Group	X							
93	Bovis Homes Group	X							
94	Britvic	X	X	X	X	X	X	X	
95	Bwin.Party Digital Entertainment	X	X	X	X		X		
96	N Brown Group	X							
97	Bunzl	X	X	X	X	X			
98	CSR	X	X	X	X	X	X	X	X
99	Carillion	X	X	X	X	X			
100	Carpetright	X	X	X	X	X	X		
101	Centamin	X							
102	Charter International	X	X	X	X	X	X	X	X
103	Chemring Group	X	X	X	X	X	X		
104	Cobham	X	X	X	X	X	X	X	X
105	Colt Group	X	X	X	X	X	X	X	X
106	Computacenter	X	X	X	X	X	X		
107	Cookson Group	X	X	X					
108	Cranswick	X	X	X	X	X			
109	Croda International	X	X	X	X		X		
110	Daily Mail and General Trust	X	X	X	X	X	X	X	X
111	Dairy Crest Group	X	X	X	X	X	X	X	
112	De La Rue	X	X	X	X	X			
113	Debenhams	X	X						
114	Devro	X	X	X	X		X		
115	Dignity	X	X						
116	Dixons Retail	X	X	X	X	X			
117	Domino Printing Sciences	X	X	X	X		X	X	
118	Domino’s Pizza	X	X	X	X	X	X		
119	Drax Group	X							
120	Dunelm Group	X							
121	EasyJet	X							
122	Electrocomponents	X	X	X	X	X			
123	Elementis	X	X	X	X				
124	Enterprise Inns	X							
125	Euromoney Institutional Investor	X	X	X	X	X			
126	Fenner	X	X	X					
127	Ferrexpo	X		X	X	X	X		
128	Fidessa Group	X	X	X					
129	Filtrona	X	X	X	X		X	X	
130	FirstGroup	X	X	X	X	X	X		
131	Gem Diamonds	X	X	X					
132	Genus	X	X	X					
133	Go-Ahead Group	X	X						
134	Greene King	X	X						
135	Greggs	X							
136	Halfords Group	X	X						
137	Halma	X	X	X	X	X	X	X	X
138	Hays	X	X						

Appendix A. 1 (continued) Companies in the samples

No.	Name of the company	Sample size (N)							
		222	**200**	**178**	**155**	**126**	**107**	**76**	**42**
139	Heritage Oil	X	X	X					
140	Hikma Pharmaceuticals	X	X	X	X	X	X	X	X
141	Hochschild Mining	X	X	X	X	X	X	X	X
142	Home Retail Group	X	X						
143	Homeserve	X	X	X	X	X	X	X	X
144	Howden Joinery	X		X	X	X	X		
145	Hunting	X	X	X	X	X	X	X	X
146	ITE Group	X	X	X					
147	Imagination Technologies Group	X	X	X					
148	Inchcape	X	X	X	X	X	X		
149	Informa	X	X	X	X	X			
150	Invensys	X	X	X	X	X	X	X	
151	JD Sports Fashion	X	X						
152	JKX Oil & Gas	X	X	X	X	X	X		
153	Keller Group	X	X	X	X	X	X	X	X
154	Kesa Electricals (Darty)	X	X	X	X	X	X		
155	Kier Group	X	X						
156	Kofax	X	X	X	X		X	X	
157	Ladbrokes	X	X	X	X	X			
158	Laird	X	X	X	X				
159	Lamprell	X	X						
160	Logica	X	X	X	X	X	X	X	X
161	MITIE Group	X	X						
162	Marston’s	X	X	X	X	X			
163	Meggitt	X	X	X	X	X			
164	Michael Page International	X	X	X	X	X			
165	Micro Focus International	X	X	X					
166	Millennium & Copthorne Hotels	X	X	X	X	X	X	X	X
167	Misys	X	X	X	X	X	X	X	
168	Mitchells & Butlers	X		X	X	X	X	X	X
169	Mondi	X	X	X	X	X	X	X	X
170	Morgan Crucible Co	X	X	X	X				
171	Mothercare	X	X	X	X	X			
172	National Express Group	X	X	X	X	X			
173	Northgate	X	X	X	X	X	X	X	X
174	Northumbrian Water Group	X	X						
175	PZ Cussons	X	X	X					
176	Pace	X		X	X	X			
177	Pennon Group	X	X						
178	Persimmon	X							
179	Petropavlovsk plc	X	X	X	X	X			
180	Premier Farnell	X	X	X	X	X			
181	Premier Foods	X	X	X	X	X			
182	Preier Oil	X	X	X					
183	Punch Taverns	X	X						
184	QinetiQ	X	X	X	X	X			
185	RPC Group	X	X	X	X	X	X	X	

Appendix A. 1 (continued) Companies in the samples

No.	Name of the company	Sample size (N)							
		222	**200**	**178**	**155**	**126**	**107**	**76**	**42**
186	RPS Group	X	X	X	X	X	X		
187	Rank Group	X	X	X	X	X			
188	Redrow	X							
189	Regus	X	X	X	X	X	X	X	X
190	Renishaw	X	X	X	X	X	X		
191	Rentokil Initial	X	X	X	X	X			
192	Restaurant Group	X	X						
193	Rightmove	X	X						
194	Rotork	X	X	X	X		X	X	
195	SDL International	X	X	X	X	X	X	X	X
196	SIG plc	X	X	X	X	X	X		
197	Salamander Energy	X	X	X					
198	Senior	X	X	X	X	X	X	X	
199	Shanks Group	X	X	X	X	X	X	X	X
200	Smiths (DS)	X	X	X	X	X	X		
201	SOCO International	X	X	X	X		X	X	
202	Spectris	X	X	X	X	X	X	X	X
203	Spirax-Sarco Engineering	X	X	X	X	X			
204	Spirent	X	X	X	X		X	X	
205	Sport Direct	X	X	X	X	X			
206	Stagecoach Group	X	X	X	X	X			
207	SThree	X	X	X	X	X			
208	Stobart Group	X	X						
209	Synergy Health	X	X	X	X	X	X	X	
210	Taylor Wimpey	X	X	X	X	X			
211	Telecity Group	X	X	X	X	X			
212	Telecom Plus	X	X						
213	Thomas Cook Group	X	X	X	X	X	X		
214	Travis Perkins	X	X						
215	TUI Travel	X	X	X	X	X	X	X	X
216	Ultra Electronics Holdings	X	X	X	X	X	X	X	X
217	United Business Media (UBM)	X	X	X	X	X	X	X	
218	Victrex	X	X	X	X	X			
219	W H Smith	X	X						
220	Wetherspoon (J D)	X							
221	William Hill	X	X						
222	Yule Catto	X	X	X	X	X			

Appendix B Appendices to Chapter 5

Appendix B. 1 IFRS 8 Disclosure checklist

Company number: .....

name: .....

Reference IFRS8	Disclosure requirement	Disclosure made			
		YES	NO	NA	NK
8.15	At least **75% of the entity external revenue** shall be included in reportable segments.				
8.16	Information about other business activities and operating segments that are not reportable shall be combines and disclosed in an "all other segments" category separately from other reconciling items. The sources of the revenue included in the **"all other segments"** category shall be described.				
8.22 (a)	The entity shall disclose the **factors used to identify the entity's reportable segments**, including the basis of organisation (for example, whether management has chosen to organise the entity around differences in products and services, geographical areas, regulatory environments, or a combination of factors and whether operating segments have been aggregated).				
8.22 (b)	The entity shall disclose the **types of products and services** from which each reportable segment generates revenues.				
8.23	An entity shall **report a measure of profit or loss** for each reportable segment.				
8.23	An entity shall also disclose the following about **each reportable segment** if the specific amounts are included in the measure of profit or loss ..... **(a) revenues from external customers ....**				
8.27	An entity shall provide an **explanation of the measurement of** ▪ **segment profit or loss** for each reportable segments				
	▪ **segment assets** for each reportable segments (if segment assets are disclosed)				
	▪ **segment liabilities** for each reportable segment. (if segment liabilities are disclosed)				
8.27 (a)	An entity shall disclose the **basis of accounting for any transactions between reportable segments**.				
8.27	An entity shall **disclose the nature of differences** between the measures of the reportable segment numbers and the entity's amount for **(b) profit or loss**				
	(c) **assets** (if segment assets are disclosed)				
	(d) **liabilities** (if segment liabilities are disclosed)				
8.28	An entity shall provide **reconciliation of** (a) **the total of the reportable segments' revenues to the entity's revenue**				
	(b) **the total of the reportable segments measure of profit or loss** before tax and discontinued operations However, if an entity allocates to reportable segments items such as tax expense (tax income), the entity may reconcile the total of the segments measures of profit or loss to the entity profit or loss after those items.				
	(c) **the total of the reportable segments' assets to the entity's assets** (if segment assets are disclosed)				
	(d) **the total of the reportable segments' liabilities to the entity's liabilities** (if segment liabilities are disclosed)				
	(e) **other material items** (if disclosed for the segments)				
Total for reportable segment					
CI1_R		**%**			
CI2_R		**%**			

Appendix B. 1 (continued): IFRS 8 Disclosure checklist

Reference IFRS8	Disclosure requirement	Disclosure made			
		YES	NO	NA	NK
	An entity shall report the **revenues from external customer for each product and service**, or each group of similar product and services, unless the necessary information is not available and the cost to develop it would be excessive (in which case that fact shall be disclosed).	Data / Excuse			
8.32[120]	The **amounts** of revenues reported shall be **based on the financial information used to produce the entity's financial statements.**				
	An entity shall report the following **geographical information** unless the necessary information is not available and the cost to develop it would be excessive (in which case that fact should be disclosed): (a) **Revenues from external customers** (i) attributed to the entity's country of domicile and (ii) attributed to all foreign countries in total from which the entity derives revenues.	Data / Excuse			
8.33 (a)	An entity shall disclose the **basis for attributing revenues** from external customers to individual countries				
	An entity shall report the following **geographical information** unless the necessary information is not available and the cost to develop it would be excessive (in which case that fact should be disclosed): (b) **Non-current assets** other than financial instruments, deferred tax assets, post-employment benefit assets, and rights arising under insurance contracts (i) located in the entity's country of domicile and (ii) located in all foreign countries in total in which the entity holds assets.	Data / Excuse			
8.33 (b)					
8.33 (a)-(b)	The **amounts** reported shall be **based on the financial information used to produce the entity's financial statements.**				
8.34	An entity shall provide **information about the extent of its reliance on its major customers**.				
	If revenues from **transactions with a single external customer amounts to 10% or more of an entity's revenues** the entity shall disclose ▪ that **fact**				
	▪ the **total amount** of revenues from each such customer				
8.34	▪ the **identity of the segment or segments** reporting the revenues				
Total for entity-wide information					
CI1_EWI					**%**
CI2_EWI					**%**
Grand total					
CI1_T					**%**
CI2_T					**%**

[120] 8.31: information required by paragraphs 8.32-8.34 shall be provided only if it is not provided as part of the reportable segment information & 8.32-8.34 apply to all entities including those entities that have a single reportable segment

Appendix B. 2 Check list _ % of the companies

Reference IFRS8	Disclosure requirement	Disclosure made			
		YES	NO	NA	NK
8.15	At least **75% of the entity external revenue** shall be included in reportable segments.	100.00	-	-	-
8.16	Information about other business activities and operating segments that are not reportable shall be combines and disclosed in an "all other segments" category separately from other reconciling items. The sources of the revenue included in the **"all other segments"** category shall be described.	23.00	-	77.00	-
8.22 (a)	The entity shall disclose the **factors used to identify the entity's reportable segments**, including the basis of organisation (for example, whether management has chosen to organise the entity around differences in products and services, geographical areas, regulatory environments, or a combination of factors and whether operating segments have been aggregated).	99.00	1.00	-	-
8.22 (b)	The entity shall disclose the **types of products and services** from which each reportable segment generates revenues.	86.00	14.00	-	-
8.23	An entity shall **report a measure of profit or loss** for each reportable segment.	99.00	1.00	-	-
8.23	An entity shall also disclose the following about **each reportable segment** if the specific amounts are included in the measure of profit or loss ..... **(e) revenues from external customers ....**	96.50	3.50	-	-
8.27	An entity shall provide an **explanation of the measurement of** ▪ **segment profit or loss** for each reportable segments	97.00	3.00	-	-
	▪ **segment assets** for each reportable segments (if segment assets are disclosed)	74.00	13.50	12.50	-
	▪ **segment liabilities** for each reportable segment. (if segment liabilities are disclosed)	56.00	10.00	34.00	-
8.27 (a)	An entity shall disclose the **basis of accounting for any transactions between reportable segments**.	38.00	12.50	22.00	27.50
8.27	An entity shall **disclose the nature of differences** between the measures of the reportable segment numbers and the entity's amount for **(f) profit or loss**	97.00	2.50	0.50	-
	(g) **assets** (if segment assets are disclosed)	74.50	13.00	12.50	-
	(h) **liabilities** (if segment liabilities are disclosed)	56.00	10.00	34.00	-
8.28	An entity shall provide **reconciliation of** (f) **the total of the reportable segments' revenues to the entity's revenue**	98.50	1.50	-	-
	(g) **the total of the reportable segments measure of profit or loss** before tax and discontinued operations However, if an entity allocates to reportable segments items such as tax expense (tax income), the entity may reconcile the total of the segments measures of profit or loss to the entity profit or loss after those items.	97.00	2.00	1.00	-
	(h) **the total of the reportable segments' assets to the entity's assets** (if segment assets are disclosed)	79.50	8.00	12.50	-
	(i) **the total of the reportable segments' liabilities to the entity's liabilities** (if segment liabilities are disclosed)	59.50	6.50	34.00	-
	(j) **other material items** (if disclosed for the segments)	24.50	-	75.50	-
Total for reportable segment		75.28	5.67	17.53	1.52

Appendix B. 2 (continued) Check list _ % of the companies

Reference IFRS8	Disclosure requirement	Disclosure made			
		YES	NO	NA	NK
	An entity shall report the **revenues from external customer for each product and service**, or each group of similar product and services, unless the necessary information is not available and the cost to develop it would be excessive (in which case that fact shall be disclosed).	Data 80.50 Excuse -	13.50	5.50	0.50
8.32[121]	The **amounts** of revenues reported shall be **based on the financial information used to produce the entity's financial statements.**	80.50	0.50	19.00	-
	An entity shall report the following **geographical information** unless the necessary information is not available and the cost to develop it would be excessive (in which case that fact should be disclosed): (a) **Revenues from external customers** (i) attributed to the entity's country of domicile and (ii) attributed to all foreign countries in total from which the entity derives revenues.	Data 74.00 Excuse -	6.50	7.50	12.00
8.33 (a)	An entity shall disclose the **basis for attributing revenues** from external customers to individual countries	64.50	24.00	11.50	-
8.33 (b)	An entity shall report the following **geographical information** unless the necessary information is not available and the cost to develop it would be excessive (in which case that fact should be disclosed): (b) **Non-current assets** other than financial instruments, deferred tax assets, post-employment benefit assets, and rights arising under insurance contracts (i) located in the entity's country of domicile and (ii) located in all foreign countries in total in which the entity holds assets.	Data 54.50 Excuse 0.50	23.50	8.50	13.00
8.33 (a)-(b)	The **amounts** reported shall be **based on the financial information used to produce the entity's financial statements.**	84.50	2.50	12.00	1.00
8.34	An entity shall provide **information about the extent of its reliance on its major customers**.	48.50	-	-	51.50
	If revenues from **transactions with a single external customer amounts to 10% or more of an entity's revenues** the entity shall disclose ▪ that **fact**	22.50	-	77.50	-
	▪ the **total amount** of revenues from each such customer	19.50	3.00	77.50	-
8.34	▪ the **identity of the segment or segments** reporting the revenues	21.50	1.00	77.50	-
Total for entity-wide information		55.10	7.45	29.65	7.80
Grand total		68.07	6.30	21.86	3.77

[121] 8.31: information required by paragraphs 8.32-8.34 shall be provided only if it is not provided as part of the reportable segment information & 8.32-8.34 apply to all entities including those entities that have a single reportable segment

Appendix B. 3 Pearson correlation matrix (unranked) for the compliance indices and for the continuous independent variables

Correlations

		CI1_R_ Compliance index1 for reportable segments (%)	CI2_R_ Compliance index2 for reportable segments (%)	CI1_EWI_ Compliance index1 for entity wide information (%)	CI2_EWI_ Compliance index2 for entity wide information (%)	CI1_T_ Compliance index1 for segmental information_ total (%)	CI2_T_ Compliance index2 for segmental information_ total (%)	HHI_sales	Capintens_ PPEtoTA	Total sales_Y0	Solvency ratio (Liability based)	Current ratio	ROE	No of subsidiaries in foreign countries	Growth rate _ sales (without currency exchange rate change)
CI1_R_Compliance index1 for reportable segments (%)	Pearson Correlation	1	.974**	.248**	.191**	.879**	.898**	-.045	-.010	.014	-.199**	-.155*	-.034	-.097	-.169*
	Sig. (2-tailed)		.000	.000	.007	.000	.000	.530	.887	.849	.005	.029	.632	.171	.017
	N	200	200	200	200	200	200	200	200	200	200	200	200	200	200
CI2_R_Compliance index2 for reportable segments (%)	Pearson Correlation	.974**	1	.242**	.176*	.863**	.914**	-.041	-.029	-.009	-.181*	-.133	-.043	-.118	-.152*
	Sig. (2-tailed)	.000		.001	.013	.000	.000	.565	.685	.898	.010	.060	.547	.097	.032
	N	200	200	200	200	200	200	200	200	200	200	200	200	200	200
CI1_EWI_Compliance index1 for entity wide information (%)	Pearson Correlation	.248**	.242**	1	.840**	.652**	.514**	-.054	-.195**	-.101	.095	-.004	-.012	.045	.075
	Sig. (2-tailed)	.000	.001		.000	.000	.000	.451	.006	.154	.179	.953	.865	.524	.291
	N	200	200	200	200	200	200	200	200	200	200	200	200	200	200
CI2_EWI_Compliance index2 for entity wide information (%)	Pearson Correlation	.191**	.176*	.840**	1	.525**	.515**	-.027	-.144*	.059	.106	.027	.012	.101	.079
	Sig. (2-tailed)	.007	.013	.000		.000	.000	.702	.042	.409	.134	.700	.864	.153	.266
	N	200	200	200	200	200	200	200	200	200	200	200	200	200	200
CI1_T_Compliance index1 for segmental information_total (%)	Pearson Correlation	.879**	.863**	.652**	.525**	1	.949**	-.065	-.089	-.048	-.132	-.136	-.031	-.065	-.076
	Sig. (2-tailed)	.000	.000	.000	.000		.000	.362	.210	.498	.063	.055	.666	.361	.284
	N	200	200	200	200	200	200	200	200	200	200	200	200	200	200
CI2_T_Compliance index2 for segmental information_total (%)	Pearson Correlation	.898**	.914**	.514**	.515**	.949**	1	-.021	-.074	.009	-.126	-.108	-.026	-.071	-.069
	Sig. (2-tailed)	.000	.000	.000	.000	.000		.765	.298	.895	.076	.127	.711	.320	.335
	N	200	200	200	200	200	200	200	200	200	200	200	200	200	200
HHI_sales	Pearson Correlation	-.045	-.041	-.054	-.027	-.065	-.021	1	.222**	.217**	.146*	.132	-.026	.169*	.133
	Sig. (2-tailed)	.530	.565	.451	.702	.362	.765		.002	.002	.039	.062	.719	.017	.061
	N	200	200	200	200	200	200	200	200	200	200	200	200	200	200
Capintens_PPEtoTA	Pearson Correlation	-.010	-.029	-.195**	-.144*	-.089	-.074	.222**	1	.072	-.042	-.085	-.054	-.020	.042
	Sig. (2-tailed)	.887	.685	.006	.042	.210	.298	.002		.312	.554	.233	.444	.777	.558
	N	200	200	200	200	200	200	200	200	200	200	200	200	200	200
Total sales_Y0	Pearson Correlation	.014	-.009	-.101	.059	-.048	.009	.217**	.072	1	-.058	-.083	-.004	.496**	-.014
	Sig. (2-tailed)	.849	.898	.154	.409	.498	.895	.002	.312		.412	.242	.957	.000	.844
	N	200	200	200	200	200	200	200	200	200	200	200	200	200	200
Solvency ratio (Liability based)	Pearson Correlation	-.199**	-.181*	.095	.106	-.132	-.126	.146*	-.042	-.058	1	.622**	-.028	-.013	.065
	Sig. (2-tailed)	.005	.010	.179	.134	.063	.076	.039	.554	.412		.000	.697	.856	.362
	N	200	200	200	200	200	200	200	200	200	200	200	200	200	200
Current ratio	Pearson Correlation	-.155*	-.133	-.004	.027	-.136	-.108	.132	-.085	-.083	.622**	1	-.027	-.005	-.011
	Sig. (2-tailed)	.029	.060	.953	.700	.055	.127	.062	.233	.242	.000		.701	.941	.882
	N	200	200	200	200	200	200	200	200	200	200	200	200	200	200
ROE	Pearson Correlation	-.034	-.043	-.012	.012	-.031	-.026	-.026	-.054	-.004	-.028	-.027	1	-.001	-.015
	Sig. (2-tailed)	.632	.547	.865	.864	.666	.711	.719	.444	.957	.697	.701		.985	.829
	N	200	200	200	200	200	200	200	200	200	200	200	200	200	200
No of subsidiaries in foreign countries	Pearson Correlation	-.097	-.118	.045	.101	-.065	-.071	.169*	-.020	.496**	-.013	-.005	-.001	1	-.007
	Sig. (2-tailed)	.171	.097	.524	.153	.361	.320	.017	.777	.000	.856	.941	.985		.926
	N	200	200	200	200	200	200	200	200	200	200	200	200	200	200
Growth rate _ sales (without currency exchange rate change)	Pearson Correlation	-.169*	-.152*	.075	.079	-.076	-.069	.133	.042	-.014	.065	-.011	-.015	-.007	1
	Sig. (2-tailed)	.017	.032	.291	.266	.284	.335	.061	.558	.844	.362	.882	.829	.926	
	N	200	200	200	200	200	200	200	200	200	200	200	200	200	200

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Appendix B. 4 Pearson correlation matrix (ranked) for the compliance indices and for the continuous independent variables

Correlations

		Rank of Compliancescore1forreportablesegments	Rank of Compliancescore2forreportablesegments	Rank of Compliancescore1forentitywideinformation	Rank of Compliancescore2forentitywideinformation	Rank of Compliancescore1forsegmentalinformation_total	Rank of Compliancescore2forsegmentalinformation_total	Rank of HHI_sales	Rank of Capintens_PPEtoTA	Rank of Totalsales_Y0	Rank of Solvencyratio Liabilitybased	Rank of Currentratio	Rank of ROE	Rank of Noofsubsidiariesinforeigncountries	Rank of Growthrate_saleswithoutcurrencyexchangeratechange
Rank of Compliancescore1forreportablesegments	Pearson Correlation	1	.869**	.289**	.222**	.760**	.751**	-.067	-.002	.072	-.200**	-.105	.052	-.095	.003
	Sig. (2-tailed)		.000	.000	.002	.000	.000	.343	.980	.311	.005	.139	.469	.181	.966
	N	200	200	200	200	200	200	200	200	200	200	200	200	200	200
Rank of Compliancescore2forreportablesegments	Pearson Correlation	.869**	1	.285**	.197**	.722**	.799**	-.021	-.016	-.013	-.117	-.089	.002	-.136	.034
	Sig. (2-tailed)	.000		.000	.005	.000	.000	.772	.823	.850	.098	.211	.977	.054	.636
	N	200	200	200	200	200	200	200	200	200	200	200	200	200	200
Rank of Compliancescore1forentitywideinformation	Pearson Correlation	.289**	.285**	1	.747**	.785**	.635**	.018	-.130	-.025	.051	.083	-.065	.042	.100
	Sig. (2-tailed)	.000	.000		.000	.000	.000	.797	.067	.726	.476	.245	.364	.559	.157
	N	200	200	200	200	200	200	200	200	200	200	200	200	200	200
Rank of Compliancescore2forentitywideinformation	Pearson Correlation	.222**	.197**	.747**	1	.595**	.673**	.088	-.074	.004	.051	.121	-.009	-.011	.111
	Sig. (2-tailed)	.002	.005	.000		.000	.000	.216	.298	.960	.476	.088	.899	.874	.116
	N	200	200	200	200	200	200	200	200	200	200	200	200	200	200
Rank of Compliancescore1forsegmentalinformation_total	Pearson Correlation	.760**	.722**	.785**	.595**	1	.901**	-.046	-.090	.049	-.078	-.023	.012	-.058	.047
	Sig. (2-tailed)	.000	.000	.000	.000		.000	.521	.204	.487	.275	.744	.862	.411	.512
	N	200	200	200	200	200	200	200	200	200	200	200	200	200	200
Rank of Compliancescore2forsegmentalinformation_total	Pearson Correlation	.751**	.799**	.635**	.673**	.901**	1	.008	-.076	.010	-.048	-.013	.013	-.110	.063
	Sig. (2-tailed)	.000	.000	.000	.000	.000		.909	.282	.892	.497	.856	.857	.120	.378
	N	200	200	200	200	200	200	200	200	200	200	200	200	200	200
Rank of HHI_sales	Pearson Correlation	-.067	-.021	.018	.088	-.046	.008	1	.356**	-.052	.179*	.115	-.095	.059	-.053
	Sig. (2-tailed)	.343	.772	.797	.216	.521	.909		.000	.465	.011	.104	.179	.404	.455
	N	200	200	200	200	200	200	200	200	200	200	200	200	200	200
Rank of Capintens_PPEtoTA	Pearson Correlation	-.002	-.016	-.130	-.074	-.090	-.076	.356**	1	.036	-.055	-.072	-.040	-.048	-.040
	Sig. (2-tailed)	.980	.823	.067	.298	.204	.282	.000		.617	.439	.314	.571	.501	.571
	N	200	200	200	200	200	200	200	200	200	200	200	200	200	200
Rank of Totalsales_Y0	Pearson Correlation	.072	-.013	-.025	.004	.049	.010	-.052	.036	1	-.404**	-.317**	.008	.153*	-.113
	Sig. (2-tailed)	.311	.850	.726	.960	.487	.892	.465	.617		.000	.000	.912	.031	.112
	N	200	200	200	200	200	200	200	200	200	200	200	200	200	200
Rank of Solvencyratio Liabilitybased	Pearson Correlation	-.200**	-.117	.051	.051	-.078	-.048	.179*	-.055	-.404**	1	.505**	-.244**	.159*	.052
	Sig. (2-tailed)	.005	.098	.476	.476	.275	.497	.011	.439	.000		.000	.001	.025	.466
	N	200	200	200	200	200	200	200	200	200	200	200	200	200	200
Rank of Currentratio	Pearson Correlation	-.105	-.089	.083	.121	-.023	-.013	.115	-.072	-.317**	.505**	1	-.158*	.167*	-.084
	Sig. (2-tailed)	.139	.211	.245	.088	.744	.856	.104	.314	.000	.000		.026	.018	.238
	N	200	200	200	200	200	200	200	200	200	200	200	200	200	200
Rank of ROE	Pearson Correlation	.052	.002	-.065	-.009	.012	.013	-.095	-.040	.008	-.244**	-.158*	1	-.078	.277**
	Sig. (2-tailed)	.469	.977	.364	.899	.862	.857	.179	.571	.912	.001	.026		.271	.000
	N	200	200	200	200	200	200	200	200	200	200	200	200	200	200
Rank of Noofsubsidiariesinforeigncountries	Pearson Correlation	-.095	-.136	.042	-.011	-.058	-.110	.059	-.048	.153*	.159*	.167*	-.078	1	-.046
	Sig. (2-tailed)	.181	.054	.559	.874	.411	.120	.404	.501	.031	.025	.018	.271		.519
	N	200	200	200	200	200	200	200	200	200	200	200	200	200	200
Rank of Growthrate_saleswithoutcurrencyexchangeratechange	Pearson Correlation	.003	.034	.100	.111	.047	.063	-.053	-.040	-.113	.052	-.084	.277**	-.046	1
	Sig. (2-tailed)	.966	.636	.157	.116	.512	.378	.455	.571	.112	.466	.238	.000	.519	
	N	200	200	200	200	200	200	200	200	200	200	200	200	200	200

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Appendix B. 5 Kendall`s tau for the compliance indices and for the continuous independent variables (ranked)

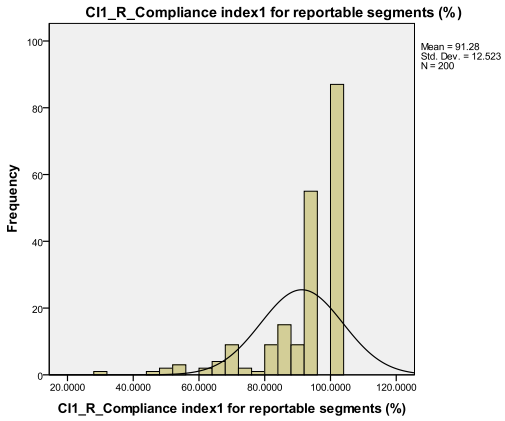
Correlations

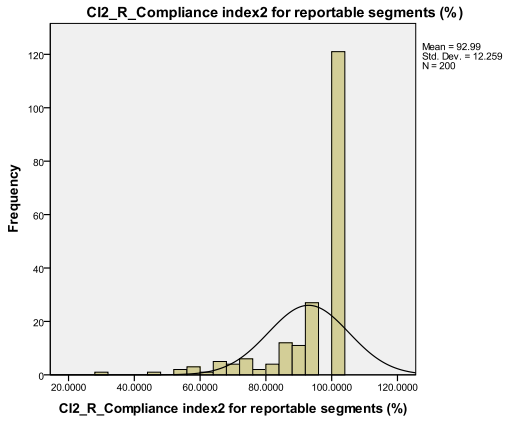
			Rank of Compliancescore1forreportablesegments	Rank of Compliancescore2forreportablesegments	Rank of Compliancescore1forentitywideinformation	Rank of Compliancescore2forentitywideinformation	Rank of Compliancescore1forsegmentalinformation_total	Rank of Compliancescore2forsegmentalinformation_total	Rank of HHI_sales	Rank of Capintens_PPEtoTA	Rank of Totalsales_Y0	Rank of Solvencyratio Liabilitybased	Rank of Currentratio	Rank of ROE	Rank of Noofsubsidiariesinforeigncountries	Rank of Growthrate_saleswithoutcurrencyexchangeratechange
Kendall's tau_b	Rank of Compliancescore1forreportablesegments	Correlation Coefficient	1.000	.811**	.220**	.177**	.616**	.628**	-.050	-.006	.051	-.141**	-.074	.038	-.067	.005
		Sig. (2-tailed)	.	.000	.000	.002	.000	.000	.342	.910	.320	.006	.150	.458	.198	.929
		N	200	200	200	200	200	200	200	200	200	200	200	200	200	200
	Rank of Compliancescore2forreportablesegments	Correlation Coefficient	.811**	1.000	.230**	.163**	.598**	.693**	-.015	-.012	-.013	-.087	-.069	.003	-.104	.027
		Sig. (2-tailed)	.000	.	.000	.005	.000	.000	.773	.817	.798	.099	.190	.948	.052	.605
		N	200	200	200	200	200	200	200	200	200	200	200	200	200	200
	Rank of Compliancescore1forentitywideinformation	Correlation Coefficient	.220**	.230**	1.000	.680**	.638**	.505**	.012	-.089	-.020	.033	.058	-.046	.027	.075
		Sig. (2-tailed)	.000	.000	.	.000	.000	.000	.807	.076	.694	.514	.245	.362	.593	.136
		N	200	200	200	200	200	200	200	200	200	200	200	200	200	200
	Rank of Compliancescore2forentitywideinformation	Correlation Coefficient	.177**	.163**	.680**	1.000	.487**	.563**	.063	-.055	-.001	.034	.089	-.007	-.008	.082
		Sig. (2-tailed)	.002	.005	.000	.	.000	.000	.237	.290	.988	.517	.089	.891	.874	.113
		N	200	200	200	200	200	200	200	200	200	200	200	200	200	200
	Rank of Compliancescore1forsegmentalinformation_total	Correlation Coefficient	.616**	.598**	.638**	.487**	1.000	.785**	-.034	-.065	.031	-.054	-.014	.010	-.041	.036
		Sig. (2-tailed)	.000	.000	.000	.000	.	.000	.482	.181	.514	.266	.769	.839	.401	.454
		N	200	200	200	200	200	200	200	200	200	200	200	200	200	200
	Rank of Compliancescore2forsegmentalinformation_total	Correlation Coefficient	.628**	.693**	.505**	.563**	.785**	1.000	.005	-.056	.008	-.036	-.010	.009	-.085	.046
		Sig. (2-tailed)	.000	.000	.000	.000	.000	.	.926	.263	.877	.471	.847	.855	.092	.355
		N	200	200	200	200	200	200	200	200	200	200	200	200	200	200
	Rank of HHI_sales	Correlation Coefficient	-.050	-.015	.012	.063	-.034	.005	1.000	.235**	-.035	.118*	.073	-.065	.039	-.039
		Sig. (2-tailed)	.342	.773	.807	.237	.482	.926	.	.000	.469	.015	.131	.177	.426	.417
		N	200	200	200	200	200	200	200	200	200	200	200	200	200	200
	Rank of Capintens_PPEtoTA	Correlation Coefficient	-.006	-.012	-.089	-.055	-.065	-.056	.235**	1.000	.021	-.037	-.052	-.024	-.028	-.025
		Sig. (2-tailed)	.910	.817	.076	.290	.181	.263	.000	.	.663	.436	.275	.611	.567	.594
		N	200	200	200	200	200	200	200	200	200	200	200	200	200	200
	Rank of Totalsales_Y0	Correlation Coefficient	.051	-.013	-.020	-.001	.031	.008	-.035	.021	1.000	-.280**	-.218**	.006	.108*	-.078
		Sig. (2-tailed)	.320	.798	.694	.988	.514	.877	.469	.663	.	.000	.000	.896	.025	.099
		N	200	200	200	200	200	200	200	200	200	200	200	200	200	200
	Rank of Solvencyratio Liabilitybased	Correlation Coefficient	-.141**	-.087	.033	.034	-.054	-.036	.118*	-.037	-.280**	1.000	.355**	-.183**	.107*	.039
		Sig. (2-tailed)	.006	.099	.514	.517	.266	.471	.015	.436	.000	.	.000	.000	.026	.416
		N	200	200	200	200	200	200	200	200	200	200	200	200	200	200
	Rank of Currentratio	Correlation Coefficient	-.074	-.069	.058	.089	-.014	-.010	.073	-.052	-.218**	.355**	1.000	-.108*	.106*	-.058
		Sig. (2-tailed)	.150	.190	.245	.089	.769	.847	.131	.275	.000	.000	.	.024	.029	.223
		N	200	200	200	200	200	200	200	200	200	200	200	200	200	200
	Rank of ROE	Correlation Coefficient	.038	.003	-.046	-.007	.010	.009	-.065	-.024	.006	-.183**	-.108*	1.000	-.051	.183**
		Sig. (2-tailed)	.458	.948	.362	.891	.839	.855	.177	.611	.896	.000	.024	.	.293	.000
		N	200	200	200	200	200	200	200	200	200	200	200	200	200	200
	Rank of Noofsubsidiariesinforeigncountries	Correlation Coefficient	-.067	-.104	.027	-.008	-.041	-.085	.039	-.028	.108*	.107*	.106*	-.051	1.000	-.030
		Sig. (2-tailed)	.198	.052	.593	.874	.401	.092	.426	.567	.025	.026	.029	.293	.	.535
		N	200	200	200	200	200	200	200	200	200	200	200	200	200	200
	Rank of Growthrate_saleswithoutcurrencyexchangeratechange	Correlation Coefficient	.005	.027	.075	.082	.036	.046	-.039	-.025	-.078	.039	-.058	.183**	-.030	1.000
		Sig. (2-tailed)	.929	.605	.136	.113	.454	.355	.417	.594	.099	.416	.223	.000	.535	.
		N	200	200	200	200	200	200	200	200	200	200	200	200	200	200

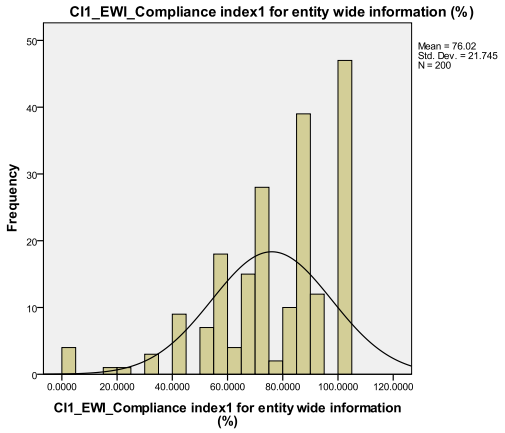
**. Correlation is significant at the 0.01 level (2-tailed).

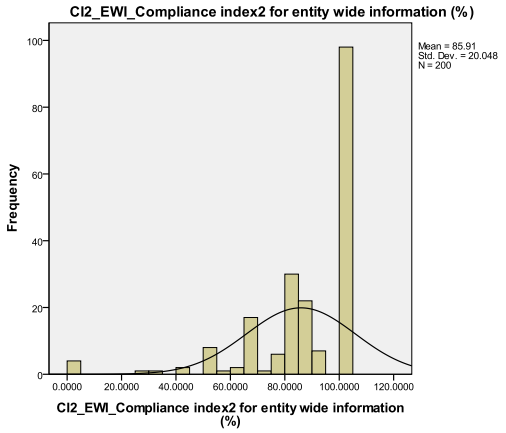
*. Correlation is significant at the 0.05 level (2-tailed).

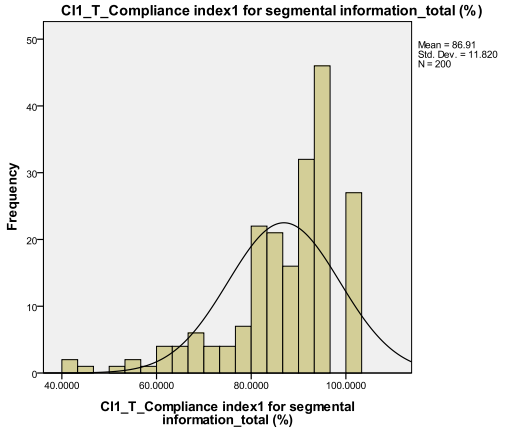
Appendix B. 6 Descriptive statistics for the dependent and independent continuous variables

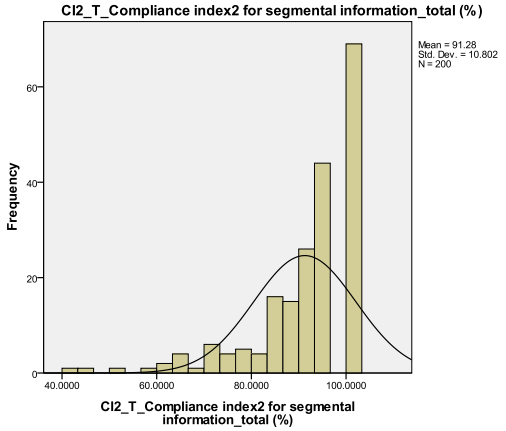




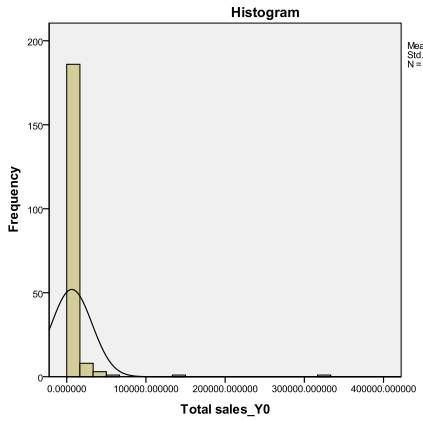


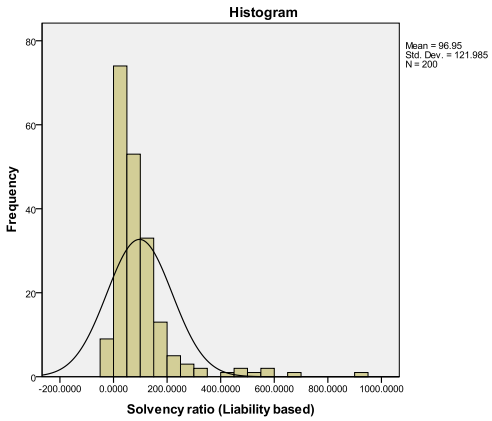


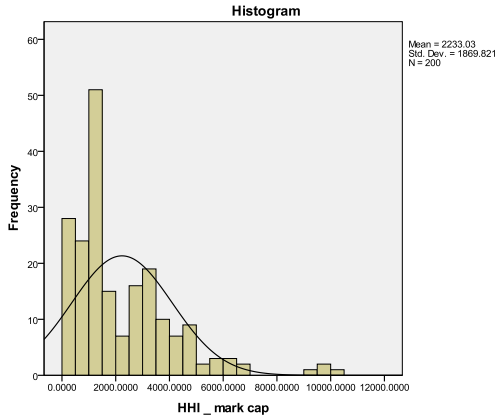


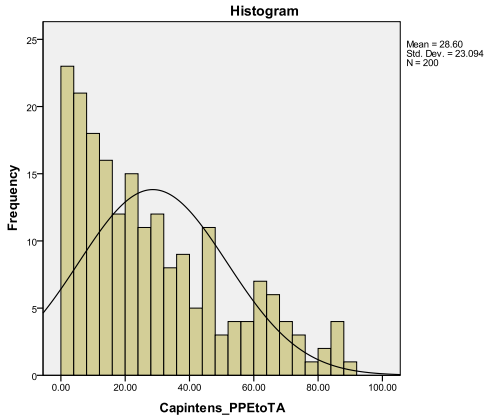


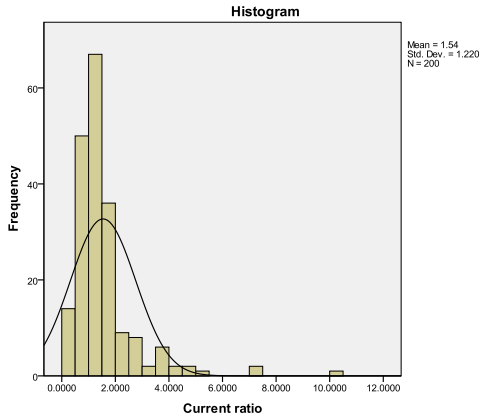
Appendix B. 6 (continued) Descriptive statistics for the dependent and independent variables

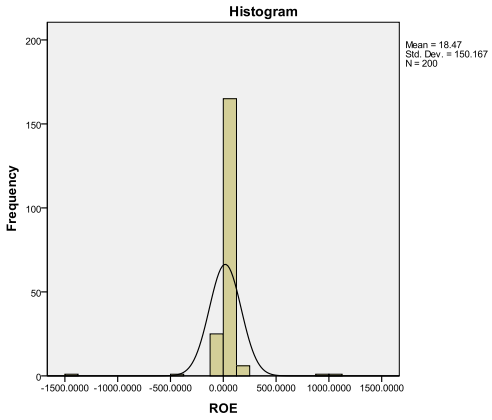


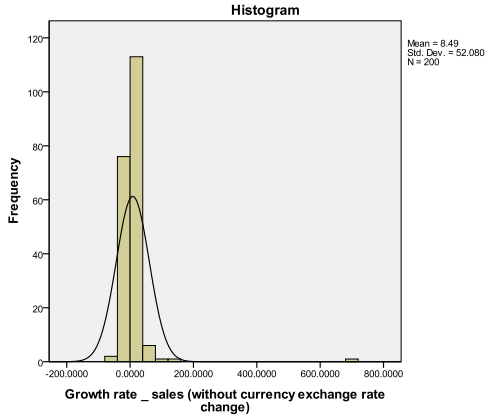


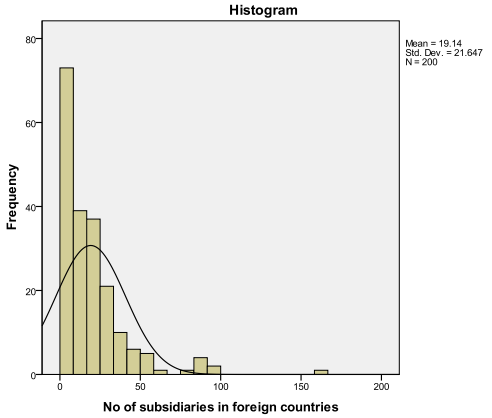








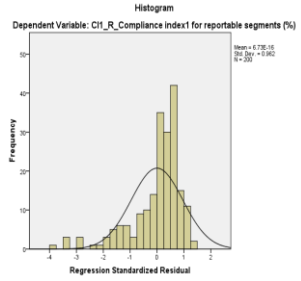
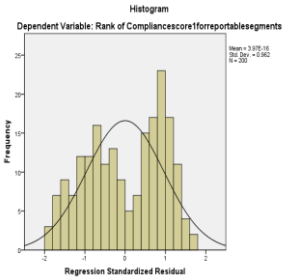
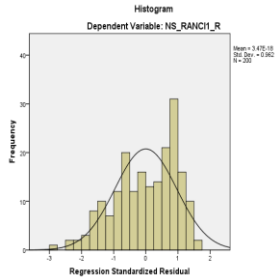
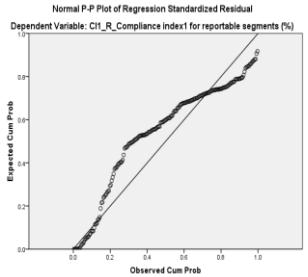
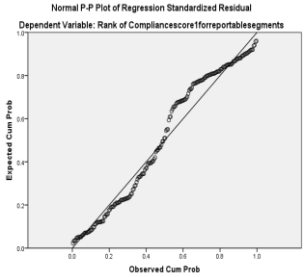
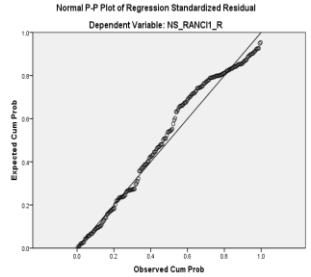
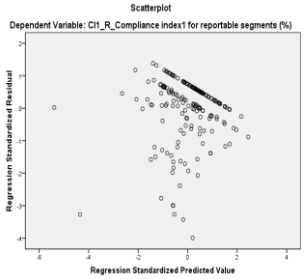
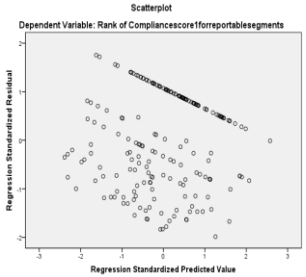
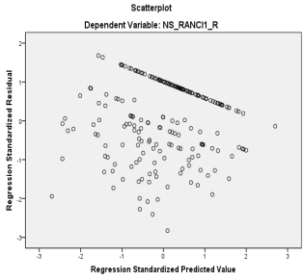




Appendix B. 7 Results of different regression models _ primary compliance score for reportable segments

Dependent variable	**CI1_R_Compliance score for reportable segments**											
	Unranked				**Ranked**				**Normal scores**			
PANEL A	Coef.	Std. Error	t	Sig.	Coef.	Std. Error	t	Sig.	Coef.	Std. Error	t	Sig.
Independent variable												
(Constant)	98.702	3.425	28.815	***0.000***	146.029	22.817	6.400	***0.000***	0.111	0.198	0.560	0.576
Auditor_Big4_D_A	-4.285	2.644	-1.621	0.107	-21.537	11.811	-1.823	*0.070*	-0.327	0.183	-1.787	*0.076*
Auditor_Big4_D_B	-9.684	2.665	-3.634	***0.000***	-45.575	12.005	-3.797	***0.000***	-0.709	0.186	-3.808	***0.000***
Auditor_Big4_D_C	-2.271	2.733	-0.831	0.407	-15.112	12.382	-1.220	0.224	-0.217	0.192	-1.131	0.260
Auditor_Big4_D_Not Big4	-11.236	5.506	-2.041	***0.043***	-51.479	24.078	-2.138	***0.034***	-0.851	0.374	-2.274	***0.024***
Market concentration	0.000	0.001	0.420	0.675								
Rank (Normal score) of market concentration					-0.039	0.072	-0.540	0.590	-0.042	0.065	-0.639	0.523
Capital intensity	-0.015	0.038	-0.382	0.703								
Rank (Normal Score) of capital intensity					-0.016	0.071	-0.223	0.824	-0.014	0.064	-0.219	0.827
Early adoption	5.599	2.454	2.282	***0.024***	22.450	11.161	2.011	***0.046***	0.384	0.172	2.231	***0.027***
Total sales	9.943E-06	0.000	0.255	0.799								
Rank (Normal Score) of total sales					-0.022	0.077	-0.289	0.773	0.008	0.072	0.105	0.917
Gearing (liability based)	-0.013	0.009	-1.374	0.171								
Rank (Normal Score) of gearing					-0.149	0.086	-1.745	*0.083*	-0.110	0.077	-1.428	0.155
Liquidity (current ratio)	-0.889	0.912	-0.975	0.331								
Rank (Normal Score)of liquidity (current ratio)					-0.050	0.080	-0.619	0.536	-0.037	0.075	-0.489	0.626
Profitability (ROE)	-0.004	0.006	-0.685	0.494								
Rank (Normal Score) of profitability (ROE)					-0.037	0.073	-0.505	0.614	-0.020	0.065	-0.302	0.763
Business reporting segment	1.257	2.270	0.554	0.580	15.721	10.475	1.501	0.135	0.202	0.162	1.244	0.215
Mixed reporting segment	0.617	2.737	0.225	0.822	10.847	12.681	0.855	0.393	0.135	0.197	0.684	0.495
Number of foreign subsidiaries	-0.078	0.046	-1.712	*0.089*								
Rank (Normal Score) of the number of foreign subsidiaries					-0.030	0.070	-0.425	0.671	-0.055	0.067	-0.828	0.409
Growth	-0.033	0.016	-1.982	***0.049***								
Rank (Normal Score) of growth					-0.022	0.072	-0.304	0.761	-0.041	0.065	-0.630	0.530
PANEL B _ Model summary												
R				0.431				0.400				0.405
R Square				0.186				0.160				0.164
Adjusted R Square				0.119				0.092				0.096
Std. Error of the Estimate				11.753				52.776				0.818
Durbin-Watson				1.830				1.919				1.901
PANEL C _ ANOVA												
F				2.795				2.342				2.401
Sig.				0.001				0.004				0.003
PANEL D _ Collinearity Statistics												
Minimum Tolerance				0.458				0.462				0.462
Maximum VIF				2.184				2.163				2.165
Average VIF				1.534				1.543				1.534
PANEL E _ Case diagnostics												
No of standardized resid >|2|_ 95%				9				0				5
No of standardized resid >|2.5|_ 99%				7				0				1
No of standardized resid >|3|_ outliers				4				0				0
Maximum Cook`s distance				0.532				0.039				0.080
Skewness of the residuals				-1.731				-0.202				-0.501
Kurtosis of the residuals				3.246				-1.207				-0.565

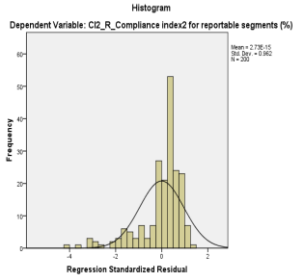
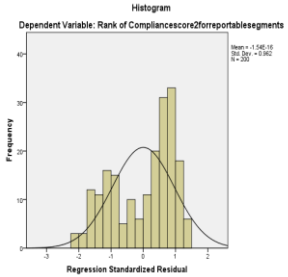
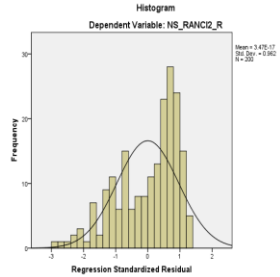
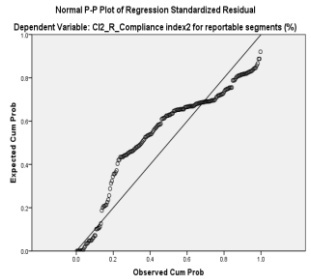
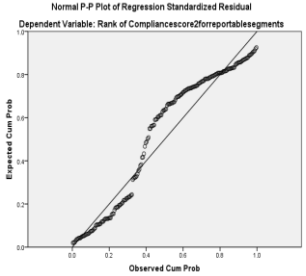
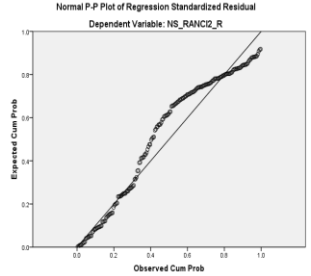
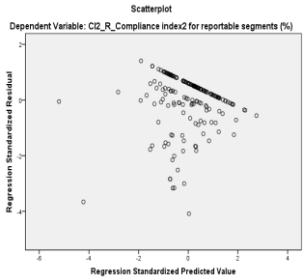
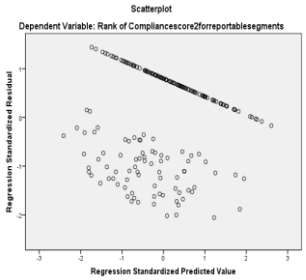
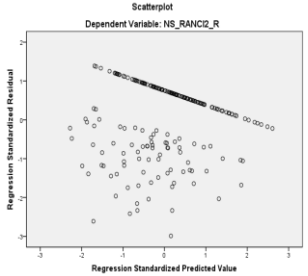
Appendix B. 7 (continued) Results of different regression models _ primary compliance score for reportable segments

Dependent variable	CI1_R_Compliance score for reportable segments		
	Unranked	Ranked	Normal scores
PANEL F			
PANEL G			
PANEL H			

Appendix B. 8 Results of different regression models _ secondary compliance score for reportable segments

Dependent variable	**CI2_R_Compliance score for reportable segments**											
	Unranked				**Ranked**				**Normal scores**			
PANEL A	Coef.	Std. Error	t	Sig.	Coef.	Std. Error	t	Sig.	Coef.	Std. Error	t	Sig.
Independent variable												
(Constant)	100.707	3.401	29.611	***0.000***	144.200	21.421	6.732	***0.000***	0.046	0.187	0.245	0.807
Auditor_Big4_D_A	-3.579	2.625	-1.363	0.174	-13.563	11.092	-1.223	0.223	-0.218	0.173	-1.260	0.209
Auditor_Big4_D_B	-8.576	2.646	-3.242	***0.001***	-35.700	11.270	-3.168	***0.002***	-0.576	0.176	-3.281	0.001
Auditor_Big4_D_C	-2.170	2.714	-0.799	0.425	-12.138	11.624	-1.044	0.298	-0.181	0.181	-1.000	0.319
Auditor_Big4_D_Not Big4	-9.122	5.467	-1.669	*0.097*	-22.458	22.604	-0.994	0.322	-0.487	0.353	-1.379	0.170
Market concentration	0.000	0.001	0.436	0.664								
Rank (Normal score) of market concentration					-0.001	0.068	-0.019	0.985	-0.010	0.062	-0.166	0.868
Capital intensity	-0.022	0.038	-0.577	0.565								
Rank (Normal Score) of capital intensity					-0.029	0.067	-0.438	0.662	-0.033	0.060	-0.539	0.590
Early adoption	5.956	2.436	2.445	***0.015***	25.385	10.478	2.423	***0.016***	0.417	0.162	2.570	0.011
Total sales	3.950E-06	0.000	0.102	0.919								
Rank (Normal Score) of total sales					-0.070	0.072	-0.965	0.336	-0.037	0.068	-0.539	0.590
Gearing (liability based)	-0.013	0.009	-1.404	0.162								
Rank (Normal Score) of gearing					-0.086	0.080	-1.069	0.286	-0.060	0.073	-0.825	0.411
Liquidity (current ratio)	-0.631	0.905	-0.696	0.487								
Rank (Normal Score)of liquidity (current ratio)					-0.650	0.075	-0.865	0.388	-0.048	0.070	-0.683	0.496
Profitability (ROE)	0.004	0.006	-0.705	0.482								
Rank (Normal Score) of profitability (ROE)					-0.670	0.068	0.979	0.329	-0.037	0.061	-0.615	0.539
Business reporting segment	-0.047	2.254	-0.021	0.984	11.872	9.834	1.207	0.229	0.129	0.153	0.842	0.401
Mixed reporting segment	-0.331	2.717	-0.122	0.903	10.153	11.905	0.853	0.395	0.122	0.186	0.659	0.511
Number of foreign subsidiaries	-0.086	0.045	-1.892	*0.060*								
Rank (Normal Score) of the number of foreign subsidiaries					-0.070	0.066	-1.055	0.293	-0.090	0.063	-1.439	0.152
Growth	-0.030	0.016	-1.816	*0.071*								
Rank (Normal Score) of growth					-0.005	0.068	-0.076	0.940	-0.021	0.061	-0.348	0.728
PANEL B _ Model summary												
R				0.403				0.360				0.363
R Square				0.162				0.130				0.132
Adjusted R Square				0.094				0.059				0.061
Std. Error of the Estimate				11.669				49.546				0.772
Durbin-Watson				1.849				1.974				1.942
PANEL C _ ANOVA												
F				2.374				1.825				1.860
Sig.				0.004				0.034				0.030
PANEL D _ Collinearity Statistics												
Minimum Tolerance				0.458				0.462				0.462
Maximum VIF				2.184				2.163				2.165
Average VIF				1.534				1.543				1.534
PANEL E _ Case diagnostics												
No of standardized resid >|2|_ 95%				10				3				8
No of standardized resid >|2.5|_ 99%				8				0				2
No of standardized resid >|3|_ outliers				5				0				0
Maximum Cook`s distance				0.668				0.059				0.144
Skewness of the residuals				-1.802				-0.501				-0.808
Kurtosis of the residuals				3.514				-1.122				-0.197

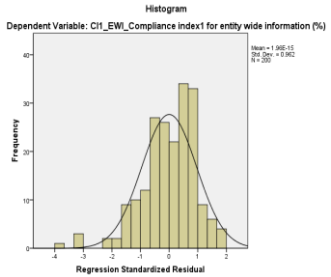
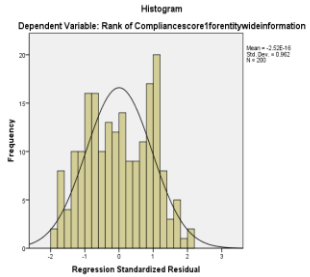
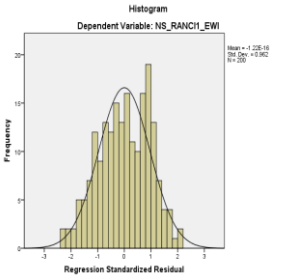
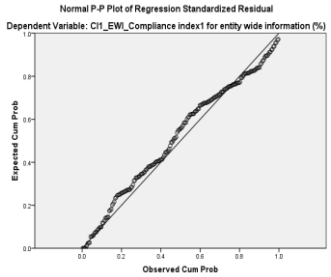
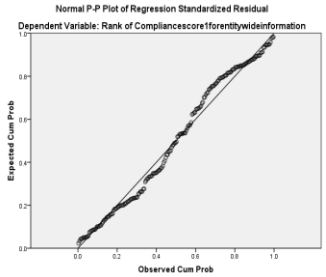
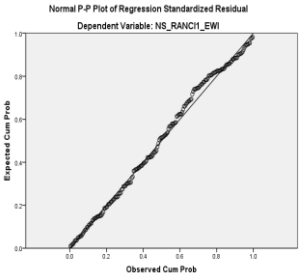
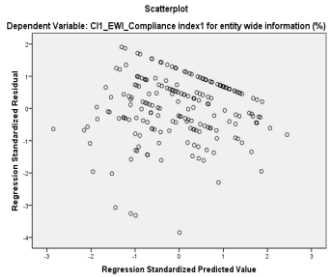
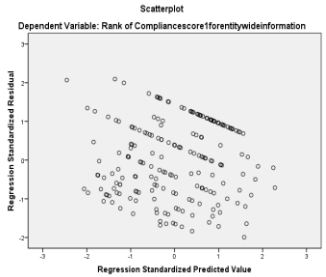
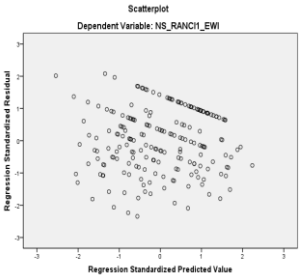
Appendix B. 8 (continued) Results of different regression models _ secondary compliance score for reportable segments

Dependent variable	CI2_R_Compliance score for reportable segments		
	Unranked	Ranked	Normal scores
PANEL F			
PANEL G			
PANEL H			

Appendix B. 9 Results of different regression models _ primary compliance score for entity-wide information

Dependent variable	**CI1_EWI_Compliance index for entity wide information**											
	Unranked				**Ranked**				**Normal scores**			
PANEL A	Coef.	Std. Error	t	Sig.	Coef.	Std. Error	t	Sig.	Coef.	Std. Error	t	Sig.
Independent variable												
(Constant)	76.579	5.765	13.283	***0.000***	100.298	22.994	4.362	***0.000***	-0.183	0.206	-0.891	0.374
Auditor_Big4_D_A	-12.633	4.450	-2.839	***0.005***	-25.945	11.906	-2.179	***0.031***	-0.469	0.190	-2.473	***0.014***
Auditor_Big4_D_B	-10.040	4.485	-2.239	***0.026***	-25.277	12.098	-2.089	***0.038***	-0.420	0.193	-2.179	***0.031***
Auditor_Big4_D_C	-3.000	4.600	-0.652	0.515	-6.194	12.478	-0.496	0.620	-0.109	0.199	-0.548	0.585
Auditor_Big4_D_Not Big4	-18.845	9.267	-2.034	***0.043***	-42.397	24.265	-1.747	*0.082*	-0.600	0.388	-1.548	0.123
Market concentration	0.001	0.001	0.501	0.617								
Rank (Normal score) of market concentration					0.065	0.073	0.890	0.374	0.034	0.068	0.500	0.618
Capital intensity	-0.203	0.064	-3.169	***0.002***								
Rank (Normal Score) of capital intensity					-0.174	0.072	-2.421	***0.016***	-0.156	0.066	-2.361	***0.019***
Early adoption	-3.486	4.130	-0.844	0.400	-19.183	11.248	-1.706	*0.090*	-0.276	0.178	-1.549	0.123
Total sales	0.000	0.000	-2.111	***0.036***								
Rank (Normal Score) of total sales					-0.003	0.078	-0.036	0.972	0.030	0.074	0.405	0.686
Gearing (liability based)	0.035	0.016	2.216	***0.028***								
Rank (Normal Score) of gearing					-0.027	0.086	-0.317	0.752	0.002	0.080	0.031	0.975
Liquidity (current ratio)	-3.569	1.535	-2.325	***0.021***								
Rank (Normal Score)of liquidity (current ratio)					-0.034	0.081	-0.424	0.672	-0.031	0.077	-0.403	0.687
Profitability (ROE)	-0.012	0.010	-1.261	0.209								
Rank (Normal Score) of profitability (ROE)					-0.167	0.073	-2.285	***0.023***	-0.152	0.067	-2.274	***0.024***
Business reporting segment	17.595	3.821	4.605	***0.000***	45.024	10.556	4.265	***0.000***	0.734	0.168	4.363	***0.000***
Mixed reporting segment	10.285	4.606	2.233	***0.027***	17.054	12.780	1.335	0.184	0.296	0.204	1.451	0.148
Number of foreign subsidiaries	0.153	0.077	1.995	***0.047***								
Rank (Normal Score) of the number of foreign subsidiaries					0.094	0.071	1.323	0.187	0.093	0.069	1.352	0.178
Growth	0.045	0.028	1.636	0.104								
Rank (Normal Score) of growth					0.148	0.073	2.030	***0.044***	0.148	0.067	2.202	***0.029***
PANEL B _ Model summary												
R				0.485				0.448				0.455
R Square				0.235				0.201				0.207
Adjusted R Square				0.173				0.136				0.143
Std. Error of the Estimate				19.781				53.186				0.847
Durbin-Watson				1.759				1.994				1.927
PANEL C _ ANOVA												
F				3.766				3.088				3.208
Sig.				0.000				0.000				0.000
PANEL D _ Collinearity Statistics												
Minimum Tolerance				0.458				0.462				0.462
Maximum VIF				2.184				2.163				2.165
Average VIF				1.534				1.543				1.534
PANEL E _ Case diagnostics												
No of standardized resid >|2|_ 95%				6				2				6
No of standardized resid >|2.5|_ 99%				4				0				0
No of standardized resid >|3|_ outliers				4				0				0
Maximum Cook`s distance				0.425				0.044				0.046
Skewness of the residuals				-0.952				0.008				-0.159
Kurtosis of the residuals				1.765				-1.007				-0.668

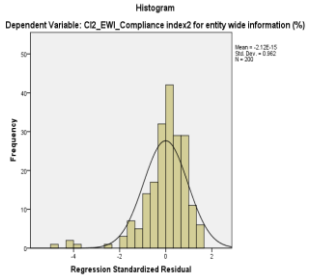
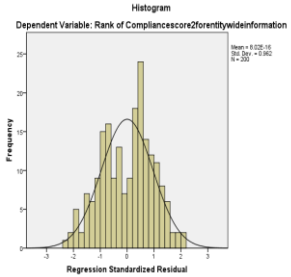
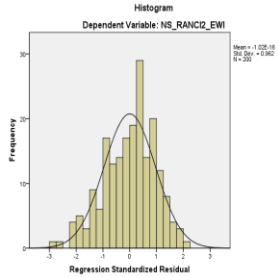
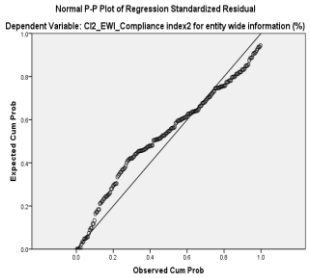
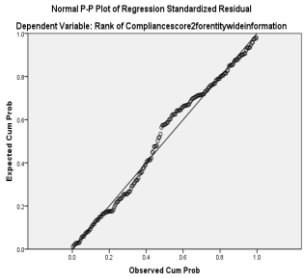
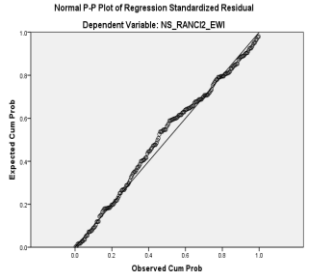
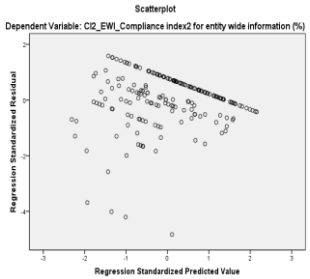
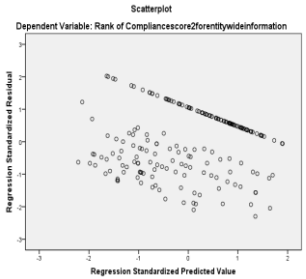
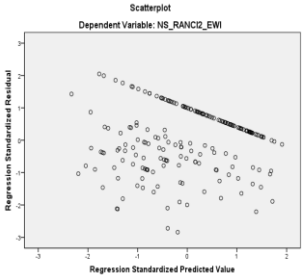
Appendix B. 9 (continued) Results of different regression models _ primary compliance score for entity-wide information

Dependent variable	CI1_EWI_Compliance index for entity wide information		
	Unranked	Ranked	Normal scores
PANEL F			
PANEL G			
PANEL H			

Appendix B. 10 Results of different regression models _ secondary compliance score for entity-wide information

Dependent variable	**CI2_EWI_Compliance index for entity wide information**											
	Unranked				**Ranked**				**Normal scores**			
PANEL A	Coef.	Std. Error	t	Sig.	Coef.	Std. Error	t	Sig.	Coef.	Std. Error	t	Sig.
Independent variable												
(Constant)	82.457	5.249	15.710	***0.000***	76.259	20.834	3.660	***0.000***	-0.268	0.180	-1.494	0.137
Auditor_Big4_D_A	-13.162	4.051	-3.249	***0.001***	-28.009	10.788	-2.596	***0.010***	-0.502	0.166	-3.025	***0.003***
Auditor_Big4_D_B	-8.379	4.083	-2.052	***0.042***	-23.705	10.961	-2.163	***0.032***	-0.386	0.169	-2.289	***0.023***
Auditor_Big4_D_C	-2.477	4.188	-0.591	0.555	-8.144	11.306	-0.720	0.472	-0.129	0.174	-0.740	0.460
Auditor_Big4_D_Not Big4	-17.930	8.437	-2.125	***0.035***	-57.321	21.985	-2.607	***0.010***	-0.806	0.339	-2.377	***0.018***
Market concentration	0.000	0.001	0.101	0.919								
Rank (Normal score) of market concentration					0.104	0.066	1.581	0.116	0.086	0.059	1.454	0.148
Capital intensity	-0.137	0.058	-2.343	0.020								
Rank (Normal Score) of capital intensity					-0.123	0.065	-1.886	*0.061*	-0.117	0.058	-2.019	***0.045***
Early adoption	1.413	3.759	0.376	0.707	0.512	10.191	0.050	0.960	0.030	0.156	0.192	0.848
Total sales	2.305E-07	0.000	0.004	0.997								
Rank (Normal Score) of total sales					0.054	0.070	0.770	0.442	0.068	0.065	1.044	0.298
Gearing (liability based)	0.028	0.014	1.959	*0.052*								
Rank (Normal Score) of gearing					-0.020	0.078	-0.258	0.797	-0.004	0.070	-0.053	0.958
Liquidity (current ratio)	-2.282	1.397	-1.633	0.104								
Rank (Normal Score)of liquidity (current ratio)					0.018	0.073	0.245	0.807	-0.004	0.068	-0.062	0.951
Profitability (ROE)	-0.009	0.009	-1.005	0.316								
Rank (Normal Score) of profitability (ROE)					-0.109	0.066	-1.644	0.102	-0.097	0.059	-1.660	*0.099*
Business reporting segment	18.093	3.479	5.201	***0.000***	52.489	9.565	5.488	***0.000***	0.805	0.147	5.476	***0.000***
Mixed reporting segment	8.112	4.194	1.934	*0.055*	12.018	11.579	1.038	0.301	0.201	0.178	1.127	0.261
Number of foreign subsidiaries	0.134	0.070	1.914	*0.057*								
Rank (Normal Score) of the number of foreign subsidiaries					0.048	0.064	0.753	0.452	0.062	0.060	1.027	0.306
Growth	0.044	0.025	1.713	*0.085*								
Rank (Normal Score) of growth					0.117	0.066	1.765	*0.079*	0.114	0.059	1.931	*0.055*
PANEL B _ Model summary												
R				0.504				0.521				0.524
R Square				0.254				0.272				0.275
Adjusted R Square				0.193				0.212				0.216
Std. Error of the Estimate				18.008				48.189				0.741
Durbin-Watson				1.787				2.077				2.008
PANEL C _ ANOVA												
F				4.175				4.580				4.647
Sig.				0.000				0.000				0.000
PANEL D _ Collinearity Statistics												
Minimum Tolerance				0.458				0.462				0.462
Maximum VIF				2.184				2.163				2.165
Average VIF				1.534				1.543				1.534
PANEL E _ Case diagnostics												
No of standardized resid >|2|_ 95%				5				5				7
No of standardized resid >|2.5|_ 99%				5				0				2
No of standardized resid >|3|_ outliers				4				0				0
Maximum Cook`s distance				0.137				0.039				0.038
Skewness of the residuals				-1.866				-0.186				-0.434
Kurtosis of the residuals				6.119				-0.697				-0.108

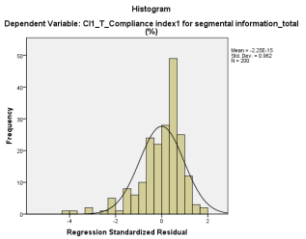
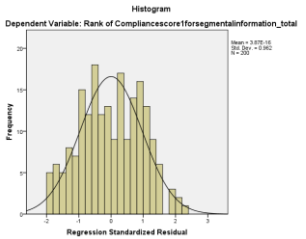
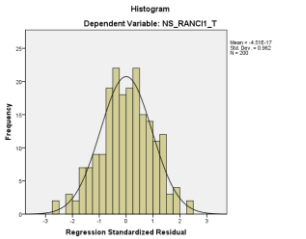
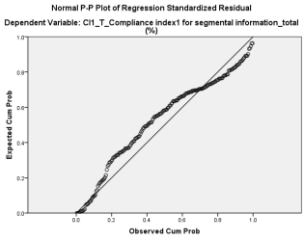
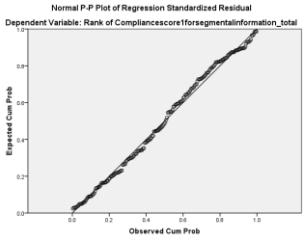
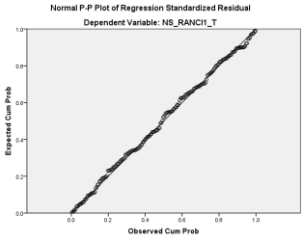
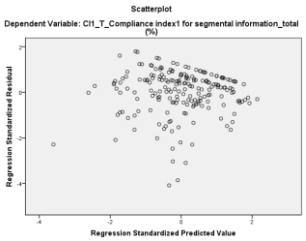
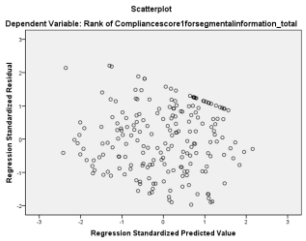
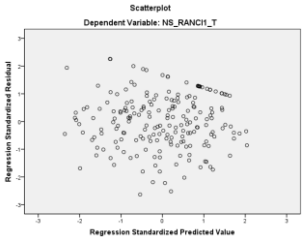
Appendix B. 10 (continued) Results of different regression models _ secondary compliance score for entity-wide information

Dependent variable	CI2_EWI_Compliance index for entity wide information		
	Unranked	Ranked	Normal scores
PANEL F			
PANEL G			
PANEL H			

Appendix B. 11 Results of different regression models _ primary compliance score for segmental information (total)

Dependent variable	**CI1_T_Compliance index for segmental information (total)**											
	Unranked				**Ranked**				**Normal scores**			
PANEL A	Coef.	Std. Error	t	Sig.	Coef.	Std. Error	t	Sig.	Coef.	Std. Error	t	Sig.
Independent variable												
(Constant)	92.293	3.216	28.699	***0.000***	123.315	23.371	5.276	***0.000***	-0.044	0.216	-0.205	0.838
Auditor_Big4_D_A	-6.024	2.482	-2.427	***0.016***	-26.787	12.102	-2.213	***0.028***	-0.454	0.199	-2.277	***0.024***
Auditor_Big4_D_B	-9.588	2.502	-3.833	***0.000***	-43.005	12.296	-3.498	***0.001***	-0.738	0.203	-3.642	***0.000***
Auditor_Big4_D_C	-2.253	2.566	-0.878	0.381	-12.333	12.683	-0.972	0.332	-0.185	0.209	-0.887	0.376
Auditor_Big4_D_Not Big4	-14.434	5.169	-2.792	***0.006***	-74.203	24.662	-3.009	***0.003***	-1.224	0.408	-3.002	***0.003***
Market concentration	0.000	0.001	0.513	0.609								
Rank (Normal score) of market concentration					0.001	0.074	0.012	0.990	-0.023	0.071	-0.322	0.747
Capital intensity	-0.060	0.036	-1.668	*0.097*								
Rank (Normal Score) of capital intensity					-0.128	0.073	-1.755	***0.081***	-0.106	0.070	-1.518	0.131
Early adoption	2.874	2.304	1.247	0.214	5.064	11.432	0.443	0.658	0.098	0.187	0.522	0.603
Total sales	-3.269E-05	0.000	-0.891	0.374								
Rank (Normal Score) of total sales					0.009	0.079	0.120	0.904	0.029	0.078	0.377	0.706
Gearing (liability based)	-0.002	0.009	-0.278	0.781								
Rank (Normal Score) of gearing					-0.048	0.088	-0.546	0.586	-0.034	0.084	-0.408	0.684
Liquidity (current ratio)	-1.552	0.856	-1.812	*0.072*								
Rank (Normal Score)of liquidity (current ratio)					-0.072	0.082	-0.872	0.384	-0.063	0.081	-0.770	0.442
Profitability (ROE)	-0.006	0.005	-1.140	0.256								
Rank (Normal Score) of profitability (ROE)					-0.088	0.074	-1.189	0.236	-0.089	0.070	-1.270	0.206
Business reporting segment	5.921	2.132	2.778	***0.006***	41.844	10.729	3.900	***0.000***	0.621	0.177	3.515	***0.001***
Mixed reporting segment	3.058	2.570	1.190	0.236	20.862	12.989	1.606	0.110	0.302	0.215	1.408	0.161
Number of foreign subsidiaries	-0.021	0.043	-0.496	0.621								
Rank (Normal Score) of the number of foreign subsidiaries					0.005	0.072	0.068	0.945	-0.021	0.072	-0.295	0.768
Growth	-0.007	0.015	-0.450	0.653								
Rank (Normal Score) of growth					0.041	0.074	0.556	0.579	0.035	0.071	0.490	0.625
PANEL B _ Model summary												
R				0.441				0.437				0.431
R Square				0.194				0.191				0.185
Adjusted R Square				0.129				0.125				0.119
Std. Error of the Estimate				11.034				54.057				0.891
Durbin-Watson				1.886				1.960				1.903
PANEL C _ ANOVA												
F				2.956				2.897				2.791
Sig. (F)				0.000				0.000				0.001
PANEL D _ Collinearity Statistics												
Minimum Tolerance				0.458				0.462				0.462
Maximum VIF				2.184				2.163				2.165
Average VIF				1.534				1.543				1.534
PANEL E _ Case diagnostics												
No of standardized resid >|2|_ 95%				10				3				7
No of standardized resid >|2.5|_ 99%				4				0				2
No of standardized resid >|3|_ outliers				4				0				0
Maximum Cook`s distance				0.262				0.038				0.060
Skewness of the residuals				-1.387				-0.019				-0.166
Kurtosis of the residuals				2.894				-0.760				-0.229

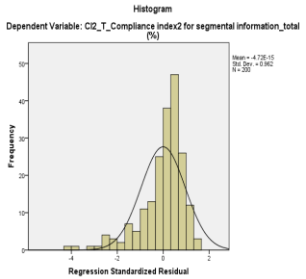
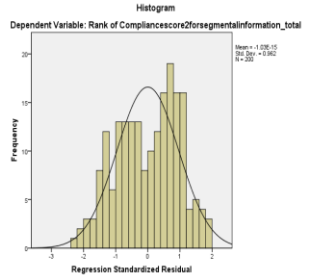
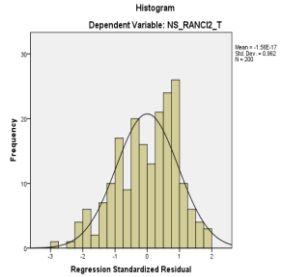
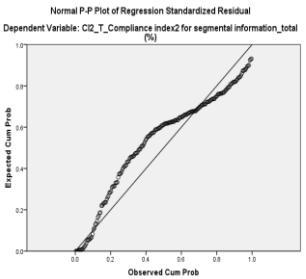
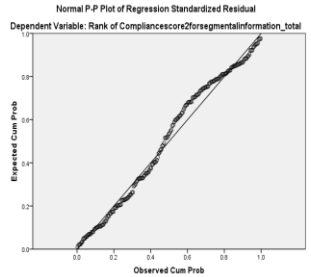
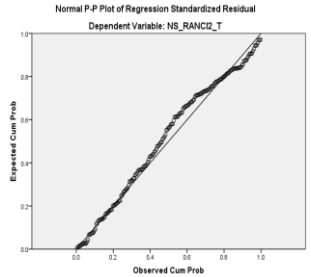
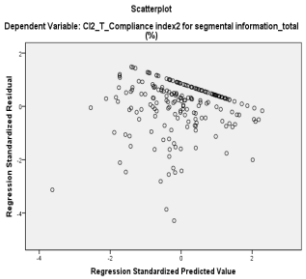
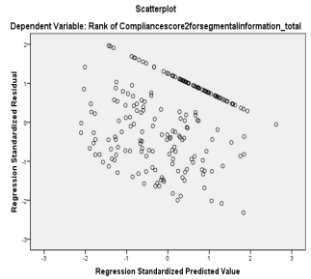
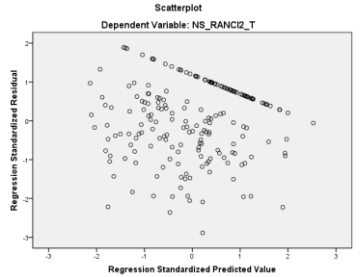
Appendix B. 11 (continued) Results of different regression models _ primary compliance score for segmental information (total)

Dependent variable	CI1_T_Compliance index for segmental information (total)		
	Unranked	Ranked	Normal scores
PANEL F			
PANEL G			
PANEL H			

Appendix B. 12 Results of different regression models _ secondary compliance score for segmental information (total)

Dependent variable	**CI2_T_Compliance index for segmental information (total)**											
	Unranked				**Ranked**				**Normal scores**			
PANEL A	Coef.	Std. Error	t	Sig.	Coef.	Std. Error	t	Sig.	Coef.	Std. Error	t	Sig.
Independent variable												
(Constant)	95.983	2.970	32.321	***0.000***	125.346	22.617	5.542	***0.000***	-0.048	0.200	-0.239	0.811
Auditor_Big4_D_A	-5.177	2.292	-2.258	***0.025***	-27.710	11.711	-2.366	***0.019***	-0.439	0.184	-2.383	***0.018***
Auditor_Big4_D_B	-8.366	2.310	-3.622	***0.000***	-44.683	11.899	-3.755	***0.000***	-0.728	0.187	-3.886	***0.000***
Auditor_Big4_D_C	-1.884	2.370	-0.795	0.428	-17.131	12.273	-1.396	0.164	-0.251	0.193	-1.302	0.195
Auditor_Big4_D_Not Big4	-11.812	4.774	-2.474	***0.014***	-65.751	23.866	-2.755	***0.006***	-1.104	0.377	-2.930	***0.004***
Market concentration	0.000	0.001	0.789	0.431								
Rank (Normal score) of market concentration					0.039	0.072	0.539	0.590	0.028	0.066	0.421	0.674
Capital intensity	-0.048	0.033	-1.437	0.152								
Rank (Normal Score) of capital intensity					-0.117	0.071	-1.655	*0.100*	-0.101	0.064	-1.566	0.119
Early adoption	4.355	2.127	2.048	***0.042***	21.761	11.063	1.967	*0.051*	0.366	0.173	2.113	***0.036***
Total sales	2.063E-07	0.000	0.006	0.995								
Rank (Normal Score) of total sales					-0.007	0.076	-0.095	0.925	0.003	0.072	0.047	0.962
Gearing (liability based)	-0.005	0.008	-0.673	0.502								
Rank (Normal Score) of gearing					-0.034	0.085	-0.405	0.686	-0.031	0.077	-0.404	0.687
Liquidity (current ratio)	-0.942	0.791	-1.191	0.235								
Rank (Normal Score)of liquidity (current ratio)					-0.068	0.079	-0.855	0.394	-0.066	0.075	-0.881	0.379
Profitability (ROE)	-0.005	0.005	-0.976	0.330								
Rank (Normal Score) of profitability (ROE)					-0.089	0.072	-1.231	0.220	-0.067	0.065	-1.035	0.302
Business reporting segment	4.287	1.968	2.178	***0.031***	40.117	10.383	3.864	***0.000***	0.563	0.163	3.446	***0.001***
Mixed reporting segment	1.354	2.373	0.571	0.569	14.581	12.570	1.160	0.248	0.196	0.198	0.989	0.324
Number of foreign subsidiaries	-0.042	0.040	-1.069	0.286								
Rank (Normal Score) of the number of foreign subsidiaries					-0.038	0.070	-0.543	0.588	-0.056	0.067	-0.833	0.406
Growth	-0.007	0.014	-0.463	0.644								
Rank (Normal Score) of growth					0.030	0.072	0.414	0.679	0.025	0.065	0.377	0.707
PANEL B _ Model summary												
R				0.421				0.460				0.456
R Square				0.177				0.212				0.208
Adjusted R Square				0.110				0.148				0.143
Std. Error of the Estimate				10.189				52.313				0.823
Durbin-Watson				1.980				2.173				2.131
PANEL C _ ANOVA												
F				2.644				3.301				3.222
Sig.				0.001				0.000				0.000
PANEL D _ Collinearity Statistics												
Minimum Tolerance				0.458				0.462				0.462
Maximum VIF				2.184				2.163				2.165
Average VIF				1.534				1.543				1.534
PANEL E _ Case diagnostics												
No of standardized resid >|2|_ 95%				11				3				6
No of standardized resid >|2.5|_ 99%				5				0				1
No of standardized resid >|3|_ outliers				3				0				0
Maximum Cook`s distance				0.489				0.055				0.104
Skewness of the residuals				-1.632				-0.196				-0.485
Kurtosis of the residuals				3.406				-0.842				-0.250

Appendix B. 12 (continued) Results of different regression models _ secondary compliance score for segmental information (total)

Dependent variable	CI2_T_Compliance index for segmental information (total)		
	Unranked	Ranked	Normal scores
PANEL F			
PANEL G			
PANEL H			

Appendix C Appendices to Chapter 6

Appendix C. 1 The geographic revenue reporting practice of the sample companies under IAS 14R (N=222)

Categories*	Geo primary segments	Geo secondary segments	Detailed geo information provided	All revenue generated in one country	No major rervenue from foreign countries	No major activity in foreign countries	Geo information not provided	Detailed geo information not provided	Total	Geo primary segments	Geo secondary segments	Detailed geo information provided	All revenue generated in one country	No major rervenue from foreign countries	No major activity in foreign countries	Geo information not provided	Detailed geo information not provided	Total	Geo primary segments	Geo secondary segments	Detailed geo information provided	All revenue generated in one country	No major rervenue from foreign countries	No major activity in foreign countries	Geo information not provided	Detailed geo information not provided	Total
	Number of companies									% of the companies									% of the companies								
Industry																											
Basic Materials	2	18	20	1	1	2	2	4	**24**	8.33	75.00	83.33	4.17	4.17	8.33	8.33	16.67	**100.00**	3.64	14.52	11.17	4.35	5.88	5.00	66.67	9.30	**10.81**
Consumer Services	11	25	36	12	10	22	1	23	**59**	23.73	37.29	61.02	20.34	16.95	37.29	1.69	38.98	**100.00**	20.00	20.16	20.11	52.17	58.82	55.00	33.33	53.49	**26.58**
Customer Goods	7	11	18	6	0	6	0	6	**24**	33.33	41.67	75.00	25.00	0.00	25.00	0.00	25.00	**100.00**	12.73	8.87	10.06	26.09	0.00	15.00	0.00	13.95	**10.81**
Health Care	1	6	7	0	0	0	0	0	**7**	14.29	85.71	100.00	0.00	0.00	0.00	0.00	0.00	**100.00**	1.82	4.84	3.91	0.00	0.00	0.00	0.00	0.00	**3.15**
Industrials	15	42	57	1	3	4	0	4	**61**	22.95	70.49	93.44	1.64	4.92	6.56	0.00	6.56	**100.00**	27.27	33.87	31.84	4.35	17.65	10.00	0.00	9.30	**27.48**
Oil and Gas	8	7	15	0	1	1	0	1	**16**	50.00	43.75	93.75	0.00	6.25	6.25	0.00	6.25	**100.00**	14.55	5.65	8.38	0.00	5.88	2.50	0.00	2.33	**7.21**
Technology	8	9	17	0	0	0	0	0	**17**	41.18	58.82	100.00	0.00	0.00	0.00	0.00	0.00	**100.00**	14.55	7.26	9.50	0.00	0.00	0.00	0.00	0.00	**7.66**
Telecommunication	2	2	4	1	0	1	0	1	**5**	40.00	40.00	80.00	20.00	0.00	20.00	0.00	20.00	**100.00**	3.64	1.61	2.23	4.35	0.00	2.50	0.00	2.33	**2.25**
Utilities	1	4	5	2	2	4	0	4	**9**	11.11	44.44	55.56	22.22	22.22	44.44	0.00	44.44	**100.00**	1.82	3.23	2.79	8.70	11.76	10.00	0.00	9.30	**4.05**
Total	**55**	**124**	**179**	**23**	**17**	**40**	**3**	**43**	**222**	**25.68**	**54.95**	**80.63**	**10.36**	**7.66**	**18.02**	**1.35**	**19.37**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**
Auditor																											
Big4_A	22	37	59	5	6	11	0	11	**70**	32.84	52.24	85.07	7.46	7.46	14.93	0.00	14.93	**100.00**	40.00	29.84	32.96	21.74	35.29	27.50	0.00	25.58	**31.53**
Big4_B	13	33	46	6	4	10	1	11	**57**	25.42	55.93	81.36	10.17	6.78	16.95	1.69	18.64	**100.00**	23.64	26.61	25.70	26.09	23.53	25.00	33.33	25.58	**25.68**
Big4_C	11	29	40	9	1	10	0	10	**50**	18.52	59.26	77.78	18.52	3.70	22.22	0.00	22.22	**100.00**	20.00	23.39	22.35	39.13	5.88	25.00	0.00	23.26	**22.52**
Big4_D	9	20	29	2	6	8	0	8	**37**	27.78	52.78	80.56	2.78	16.67	19.44	0.00	19.44	**100.00**	16.36	16.13	16.20	8.70	35.29	20.00	0.00	18.60	**16.67**
Big4	55	119	174	22	17	39	1	40	**214**	26.39	55.09	81.48	10.19	7.87	18.06	0.46	18.52	**100.00**	100.00	95.97	97.21	95.65	100.00	97.50	33.33	93.02	**96.40**
Not Big4	0	5	5	1	0	1	2	3	**8**	0.00	50.00	50.00	16.67	0.00	16.67	33.33	50.00	**100.00**	0.00	4.03	2.79	4.35	0.00	2.50	66.67	6.98	**3.60**
Total	**55**	**124**	**179**	**23**	**17**	**40**	**3**	**43**	**222**	**25.68**	**54.95**	**80.63**	**10.36**	**7.66**	**18.02**	**1.35**	**19.37**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**
Single segment/not																											
Single segment	0	9	9	15	4	19	1	20	**29**	0.00	27.27	27.27	68.18	0.00	68.18	4.55	72.73	**100.00**	0.00	7.26	5.03	65.22	23.53	47.50	33.33	46.51	**13.06**
Not single segment	55	115	170	8	13	21	2	23	**193**	29.69	60.42	90.10	0.00	8.85	8.85	1.04	9.90	**100.00**	100.00	92.74	94.97	34.78	76.47	52.50	66.67	53.49	**86.94**
Total	**55**	**124**	**179**	**23**	**17**	**40**	**3**	**43**	**222**	**26.64**	**57.01**	**83.64**	**7.01**	**7.94**	**14.95**	**1.40**	**16.36**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**
FTSE 100																											
FTSE 100	18	48	66	1	4	5	2	7	**73**	0.00	27.27	27.27	68.18	0.00	68.18	4.55	72.73	**100.00**	32.73	38.71	36.87	4.35	23.53	12.50	66.67	16.28	**32.88**
FTSE 250	37	76	113	22	13	35	1	36	**149**	29.69	60.42	90.10	0.00	8.85	8.85	1.04	9.90	**100.00**	67.27	61.29	63.13	95.65	76.47	87.50	33.33	83.72	**67.12**
Total	**55**	**124**	**179**	**23**	**17**	**40**	**3**	**43**	**222**	**26.64**	**57.01**	**83.64**	**7.01**	**7.94**	**14.95**	**1.40**	**16.36**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**
Listing status																											
Cross listed	50	115	165	20	15	35	3	38	**203**	25.62	55.67	81.28	9.85	7.39	17.24	1.48	18.72	**100.00**	90.91	92.74	92.18	86.96	88.24	87.50	100.00	88.37	**91.44**
Not cross listed	5	9	14	3	2	5	0	5	**19**	26.32	47.37	73.68	15.79	10.53	26.32	0.00	26.32	**100.00**	9.09	7.26	7.82	13.04	11.76	12.50	0.00	11.63	**8.56**
Total	**55**	**124**	**179**	**23**	**17**	**40**	**3**	**43**	**222**	**25.68**	**54.95**	**80.63**	**10.36**	**7.66**	**18.02**	**1.35**	**19.37**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**
US listing status																											
US listed	37	73	110	10	5	15	2	17	**127**	29.13	57.48	86.61	7.87	3.94	11.81	1.57	13.39	**100.00**	67.27	58.87	61.45	43.48	29.41	37.50	66.67	39.53	**57.21**
Not US listed	18	51	69	13	12	25	1	26	**95**	21.05	51.58	72.63	13.68	12.63	26.32	1.05	27.37	**100.00**	32.73	41.13	38.55	56.52	70.59	62.50	33.33	60.47	**42.79**
Total	**55**	**124**	**179**	**23**	**17**	**40**	**3**	**43**	**222**	**25.68**	**54.95**	**80.63**	**10.36**	**7.66**	**18.02**	**1.35**	**19.37**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**

*: IFRS 8 first adoption with the exception of Auditor and single segment/not

Appendix C. 2 The geographic revenue reporting practice of the sample companies under IFRS 8 (N=222)

Categories	Entity wide information	Geo reporting segments	Mixed reporting segments	Both entity wide and reporting segments information provid	in same structure	in different structure	Detailed geo information provided	All revenue generated in one country	No major revenue from foreign countries	No major activity in foreign countries	Geo information not provided	Detailed geo information not provided	Total	Entity wide information	Geo reporting segments	Mixed reporting segments	Both entity wide and reporting segments information provid	in same structure	in different structure	Detailed geo information provided	All revenue generated in one country	No major revenue from foreign countries	No major activity in foreign countries	Geo information not provided	Detailed geo information not provided	Total	Entity wide information	Geo reporting segments	Mixed reporting segments	Both entity wide and reporting segments information provid	in same structure	in different structure	Detailed geo information provided	All revenue generated in one country	No major revenue from foreign countries	No major activity in foreign countries	Geo information not provided	Detailed geo information not provided	Total
	Number of companies													% of the companies													% of the companies												
Industry																																						
Basic Materials	18	1	1	2	0	2	22	1	0	1	1	2	**24**	75.00	4.17	4.17	8.33	0.00	8.33	91.67	4.17	0.00	4.17	4.17	8.33	**100.00**	16.67	4.35	5.88	5.00	0.00	5.56	11.70	7.14	0.00	4.17	10.00	5.88	**10.81**
Consumer Services	20	5	8	9	0	9	42	4	8	12	5	17	**59**	33.90	8.47	13.56	15.25	0.00	15.25	71.19	6.78	13.56	20.34	8.47	28.81	**100.00**	18.52	21.74	47.06	22.50	0.00	25.00	22.34	28.57	80.00	50.00	50.00	50.00	**26.58**
Customer Goods	8	2	0	8	1	7	18	6	0	6	0	6	**24**	33.33	8.33	0.00	33.33	4.17	29.17	75.00	25.00	0.00	25.00	0.00	25.00	**100.00**	7.41	8.70	0.00	20.00	25.00	19.44	9.57	42.86	0.00	25.00	0.00	17.65	**10.81**
Health Care	4	0	1	2	0	2	7	0	0	0	0	0	**7**	57.14	0.00	14.29	28.57	0.00	28.57	100.00	0.00	0.00	0.00	0.00	0.00	**100.00**	3.70	0.00	5.88	5.00	0.00	5.56	3.72	0.00	0.00	0.00	0.00	0.00	**3.15**
Industrials	33	5	4	14	3	11	56	1	2	3	2	5	**61**	54.10	8.20	6.56	22.95	4.92	18.03	91.80	1.64	3.28	4.92	3.28	8.20	**100.00**	30.56	21.74	23.53	35.00	75.00	30.56	29.79	7.14	20.00	12.50	20.00	14.71	**27.48**
Oil and Gas	9	6	0	1	0	1	16	0	0	0	0	0	**16**	56.25	37.50	0.00	6.25	0.00	6.25	100.00	0.00	0.00	0.00	0.00	0.00	**100.00**	8.33	26.09	0.00	2.50	0.00	2.78	8.51	0.00	0.00	0.00	0.00	0.00	**7.21**
Technology	11	3	2	1	0	1	17	0	0	0	0	0	**17**	64.71	17.65	11.76	5.88	0.00	5.88	100.00	0.00	0.00	0.00	0.00	0.00	**100.00**	10.19	13.04	11.76	2.50	0.00	2.78	9.04	0.00	0.00	0.00	0.00	0.00	**7.66**
Telecommunication	3	1	0	0	0	0	4	1	0	1	0	1	**5**	60.00	20.00	0.00	0.00	0.00	0.00	80.00	20.00	0.00	20.00	0.00	20.00	**100.00**	2.78	4.35	0.00	0.00	0.00	0.00	2.13	7.14	0.00	4.17	0.00	2.94	**2.25**
Utilities	2	0	1	3	0	3	6	1	0	1	2	3	**9**	22.22	0.00	11.11	33.33	0.00	33.33	66.67	11.11	0.00	11.11	22.22	33.33	**100.00**	1.85	0.00	5.88	7.50	0.00	8.33	3.19	7.14	0.00	4.17	20.00	8.82	**4.05**
Total	**108**	**23**	**17**	**40**	**4**	**36**	**188**	**14**	**10**	**24**	**10**	**34**	**222**	**48.65**	**10.36**	**7.66**	**18.02**	**1.80**	**16.22**	**84.68**	**6.31**	**4.50**	**10.81**	**4.50**	**15.32**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**
Auditor																																						
Big4_A	29	5	11	15	1	14	60	4	3	7	0	7	**67**	43.28	7.46	16.42	22.39	1.49	20.90	89.55	5.97	4.48	10.45	0.00	10.45	**100.00**	26.85	21.74	64.71	37.50	25.00	38.89	31.91	28.57	30.00	29.17	0.00	20.59	**30.18**
Big4_B	24	11	2	12	2	10	49	4	1	5	5	10	**59**	40.68	18.64	3.39	20.34	3.39	16.95	83.05	6.78	1.69	8.47	8.47	16.95	**100.00**	22.22	47.83	11.76	30.00	50.00	27.78	26.06	28.57	10.00	20.83	50.00	29.41	**26.58**
Big4_C	29	4	1	10	1	9	44	4	3	7	3	10	**54**	53.70	7.41	1.85	18.52	1.85	16.67	81.48	7.41	5.56	12.96	5.56	18.52	**100.00**	26.85	17.39	5.88	25.00	25.00	25.00	23.40	28.57	30.00	29.17	30.00	29.41	**24.32**
Big4_D	22	3	3	3	0	3	31	1	3	4	1	5	**36**	61.11	8.33	8.33	8.33	0.00	8.33	86.11	2.78	8.33	11.11	2.78	13.89	**100.00**	20.37	13.04	17.65	7.50	0.00	8.33	16.49	7.14	30.00	16.67	10.00	14.71	**16.22**
Big4	104	23	17	40	4	36	184	13	10	23	9	32	**216**	48.15	10.65	7.87	18.52	1.85	16.67	85.19	6.02	4.63	10.65	4.17	14.81	**100.00**	96.30	100.00	100.00	100.00	100.00	100.00	97.87	92.86	100.00	95.83	90.00	94.12	**97.30**
Not Big4	4	0	0	0	0	0	4	1	0	1	1	2	**6**	66.67	0.00	0.00	0.00	0.00	0.00	66.67	16.67	0.00	16.67	16.67	33.33	**100.00**	3.70	0.00	0.00	0.00	0.00	0.00	2.13	7.14	0.00	4.17	10.00	5.88	**2.70**
Total	**108**	**23**	**17**	**40**	**4**	**36**	**188**	**14**	**10**	**24**	**10**	**34**	**222**	**48.65**	**10.36**	**7.66**	**18.02**	**1.80**	**16.22**	**84.68**	**6.31**	**4.50**	**10.81**	**4.50**	**15.32**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**
Single segment / Not																																						
Single segment company	7	0	0	0	0	0	7	9	2	11	4	15	**22**	31.82	0.00	0.00	0.00	0.00	0.00	31.82	40.91	9.09	50.00	18.18	68.18	**100.00**	6.48	0.00	0.00	0.00	0.00	0.00	3.72	64.29	20.00	45.83	40.00	44.12	**9.91**
Not single segment company	101	23	17	40	4	36	181	5	8	13	6	19	**200**	50.50	11.50	8.50	20.00	2.00	18.00	90.50	2.50	4.00	6.50	3.00	9.50	**100.00**	93.52	100.00	100.00	100.00	100.00	100.00	96.28	35.71	80.00	54.17	60.00	55.88	**90.09**
Total	**108**	**23**	**17**	**40**	**4**	**36**	**188**	**14**	**10**	**24**	**10**	**34**	**222**	**48.65**	**10.36**	**7.66**	**18.02**	**1.80**	**16.22**	**84.68**	**6.31**	**4.50**	**10.81**	**4.50**	**15.32**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**
FTSE 100																																						
FTSE 100	43	4	6	16	2	14	69	0	1	1	3	4	**73**	58.90	5.48	8.22	21.92	2.74	19.18	94.52	0.00	1.37	1.37	4.11	5.48	**100.00**	39.81	17.39	35.29	40.00	50.00	38.89	36.70	0.00	10.00	4.17	30.00	11.76	**32.88**
FTSE 250	65	19	11	24	2	22	119	14	9	23	7	30	**149**	43.62	12.75	7.38	16.11	1.34	14.77	79.87	9.40	6.04	15.44	4.70	20.13	**100.00**	60.19	82.61	64.71	60.00	50.00	61.11	63.30	100.00	90.00	95.83	70.00	88.24	**67.12**
Total	**108**	**23**	**17**	**40**	**4**	**36**	**188**	**14**	**10**	**24**	**10**	**34**	**222**	**48.65**	**10.36**	**7.66**	**18.02**	**1.80**	**16.22**	**84.68**	**6.31**	**4.50**	**10.81**	**4.50**	**15.32**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**
Listing status																																						
Cross listed	102	21	15	35	3	32	173	13	9	22	8	30	**203**	50.25	10.34	7.39	17.24	1.48	15.76	85.22	6.40	4.43	10.84	3.94	14.78	**100.00**	94.44	91.30	88.24	87.50	75.00	88.89	92.02	92.86	90.00	91.67	80.00	88.24	**91.44**
Not cross listed	6	2	2	5	1	4	15	1	1	2	2	4	**19**	31.58	10.53	10.53	26.32	5.26	21.05	78.95	5.26	5.26	10.53	10.53	21.05	**100.00**	5.56	8.70	11.76	12.50	25.00	11.11	7.98	7.14	10.00	8.33	20.00	11.76	**8.56**
Total	**108**	**23**	**17**	**40**	**4**	**36**	**188**	**14**	**10**	**24**	**10**	**34**	**222**	**48.65**	**10.36**	**7.66**	**18.02**	**1.80**	**16.22**	**84.68**	**6.31**	**4.50**	**10.81**	**4.50**	**15.32**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**
US listing status																																						
US listed	68	12	10	24	2	22	114	7	2	9	4	13	**127**	53.54	9.45	7.87	18.90	1.57	17.32	89.76	5.51	1.57	7.09	3.15	10.24	**100.00**	62.96	52.17	58.82	60.00	50.00	61.11	60.64	50.00	20.00	37.50	40.00	38.24	**57.21**
Not US listed	40	11	7	16	2	14	74	7	8	15	6	21	**95**	42.11	11.58	7.37	16.84	2.11	14.74	77.89	7.37	8.42	15.79	6.32	22.11	**100.00**	37.04	47.83	41.18	40.00	50.00	38.89	39.36	50.00	80.00	62.50	60.00	61.76	**42.79**
Total	**108**	**23**	**17**	**40**	**4**	**36**	**188**	**14**	**10**	**24**	**10**	**34**	**222**	**48.65**	**10.36**	**7.66**	**18.02**	**1.80**	**16.22**	**84.68**	**6.31**	**4.50**	**10.81**	**4.50**	**15.32**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**
Early adopter																																						
Early adopter	16	3	4	4	1	3	27	2	1	3	1	4	**31**	51.61	9.68	12.90	12.90	3.23	9.68	87.10	6.45	3.23	9.68	3.23	12.90	**100.00**	14.81	13.04	23.53	10.00	25.00	8.33	14.36	14.29	10.00	12.50	10.00	11.76	**13.96**
Not early adopter	92	20	13	36	3	33	161	12	9	21	9	30	**191**	48.17	10.47	6.81	18.85	1.57	17.28	84.29	6.28	4.71	10.99	4.71	15.71	**100.00**	85.19	86.96	76.47	90.00	75.00	91.67	85.64	85.71	90.00	87.50	90.00	88.24	**86.04**
Total	**108**	**23**	**17**	**40**	**4**	**36**	**188**	**14**	**10**	**24**	**10**	**34**	**222**	**48.65**	**10.36**	**7.66**	**18.02**	**1.80**	**16.22**	**84.68**	**6.31**	**4.50**	**10.81**	**4.50**	**15.32**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**

Appendix C. 3 The effect of industry type on the company's foreign revenue proportion (N=155)

Panel A: Statistics

ICB Industry	Foreign revenue % _ IAS 14R		Foreign revenue % _ IFRS 8	
	Mean	**Std. Deviation**	**Mean**	**Std. Deviation**
Basic Materials	92.74	9.16	92.36	9.65
Consumer Services	49.06	32.71	49.84	32.84
Customer Goods	58.46	38.13	58.92	37.62
Health Care	85.40	19.93	86.79	18.79
Industrials	67.63	28.76	69.12	27.95
Oil & Gas	79.72	13.52	81.13	12.44
Technology	80.08	17.69	82.69	15.86
Telecommunication	68.50	41.28	69.29	40.81
Utilities	37.04	31.58	35.83	29.67
Total	**66.45**	**31.19**	**67.48**	**30.83**

Panel B: ANOVA: foreign revenue % and industry type

IAS 14R

Test of Homogeneity of Variances

Foreign revenue % _ IAS14

Levene Statistic	df1	df2	Sig.
7.901	8	146	.000

ANOVA

Foreign revenue % _ IAS14

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	32305.165	8	4038.146	5.018	.000
Within Groups	117487.635	146	804.710		
Total	149792.800	154			

Robust Tests of Equality of Means

Foreign revenue % _ IAS14

	Statistic[a]	df1	df2	Sig.
Welch	8.711	8	21.902	.000
Brown-Forsythe	5.189	8	21.521	.001

a. Asymptotically F distributed.

IFRS 8

Test of Homogeneity of Variances

Foreign revenue % _ IFRS8

Levene Statistic	df1	df2	Sig.
7.672	8	146	.000

ANOVA

Foreign revenue % _ IFRS8

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	33234.318	8	4154.290	5.362	.000
Within Groups	113105.530	146	774.695		
Total	146339.848	154			

Robust Tests of Equality of Means

Foreign revenue % _ IFRS8

	Statistic[a]	df1	df2	Sig.
Welch	8.164	8	22.007	.000
Brown-Forsythe	5.634	8	20.829	.001

a. Asymptotically F distributed.

Appendix C. 4 The effect of different categorical variables on the companies' geographic revenue / NCA disclosure practice

N=222	Pearson's Chi-square test			Number and (%)	Cramer's V	
Categorical variables	Value	df	Asymp.sign. (2-sided)	of the expected frequencies below 5	Value	Approx.Sig.
Panel A						
Geographic revenue information under IFRS 8 (Entity wide information, Geo reporting segments, Mixed reporting segments, Both entity wide and reporting segments info _same structure, Both entity wide and reporting segments info _ different structure, All revenue generated in one country, No major revenue from foreign countries, Geo info not provided) **&**						
Industry	95.939	56	0.001	62 (86.1)	0.248	0.001
Auditor	36.449	28	0.132	28 (70.0)	0.203	0.132
FTSE 100	15.286	7	0.033	5 (31.3)	0.262	0.033
Cross listing	4.885	7	0.674	8 (50.0)	0.148	0.674
US listing	9.188	7	0.239	4 (25.0)	0.203	0.239
Early adoption	2.994	7	0.886	7 (43.8)	0.116	0.886
Type of reporting segment	343.172	14	0.000	13 (54.2)	0.879	0.000
Single segment	67.869	7	0.000	8 (50.0)	0.553	0.000
Geographic revenue information under IAS 14R (Geo primary segments, Geo secondary segments, All revenue generated in one country, No major revenue from foreign countries, Geo info not provided) **&**						
Industry	67.073	32	0.000	32 (71.1)	0.275	0.000
Auditor	62.521	16	0.000	13 (52.0)	0.265	0.000
FTSE 100	12.619	4	0.013	2 (20.0)	0.238	0.013
Cross listing	1.383	4	0.847	5 (50.0)	0.079	0.847
US listing	9.662	4	0.047	2 (20.0)	0.209	0.047
Single segment	69.757	4	0.000	4 (40.0)	0.561	0.000
Geo revenue info under IAS 14R & under IFRS 8	354.98	28	0.000	28 (70.0)	0.632	0.000
Panel B						
Geographic revenue information under IFRS 8 (Detailed geo info provided, Detailed geo info not provided)**&**						
Industry	22.881	8	0.004	8 (44.4)	0.321	0.004
Auditor	3.331	4	0.504	1 (10.0)	0.122	0.504
FTSE 100	8.113	1	0.004	0 (0.0)	0.191	0.004
Cross listing	0.527	1	0.468	1 (25.0)	0.049	0.468
US listing	5.903	1	0.015	0 (0.0)	0.163	0.015
Early adoption	0.162	1	0.688	1 (25.0)	0.027	0.688
Type of reporting segment	19.603	2	0.000	0 (0.0)	0.297	0.000
Single segment	52.623	1	0.000	1 (25.0)	0.487	0.000
Geographic revenue information under IAS 14R (Detailed geo info provided, Detailed geo info not provided) **&**						
Industry	32.697	8	0.000	8 (44.4)	0.384	0.000
Auditor	4.753	4	0.314	2 (20.0)	0.146	0.314
FTSE 100	6.662	1	0.010	0 (0.0)	0.173	0.010
Cross listing	0.642	1	0.423	1 (25.0)	0.054	0.423
US listing	6.804	1	0.009	0 (0.0)	0.175	0.009
Single segment	52.538	1	0.000	0 (0.0)	0.486	0.000
Geo revenue info under IAS 14R & under IFRS 8	155.161	1	0.000	0 (0.0)	0.836	0.000
NCA disclosure under IFRS 8 (Detailed geo info provided, Detailed geo info not provided)**&**						
Industry	10.628	8	0.224	5 (27.8)	0.219	0.224
Auditor	4.800	4	0.308	2 (20.0)	0.147	0.308
FTSE 100	9.850	1	0.002	0 (0.0)	0.211	0.002
Cross listing	0.675	1	0.411	0 (0.0)	0.055	0.411
US listing	5.392	1	0.023	0 (0.0)	0.156	0.020
Early adoption	4.686	1	0.030	0 (0.0)	0.145	0.030
Type of reporting segment	1.046	2	0.593	0 (0.0)	0.069	0.593
Detailed (revenue) disclosure under IFRS 8	83.340	7	0.000	4 (25.0)	0.613	0.000
Single segment	14.427	1	0.000	0 (0.0)	0.255	0.000

Appendix C. 5 The geographic NCA reporting practice of the sample companies under IFRS 8

N=222 Categories	NCA			NCA			NCA		
	disclosed	not disclosed	total	disclosed	not disclosed	total	disclosed	not disclosed	total
	number of the companies			% of the companies			% of the companies		
Industry									
Basic Materials	16	8	**24**	66.67	33.33	**100.00**	12.80	8.25	**10.81**
Consumer Services	24	35	**59**	40.68	59.32	**100.00**	19.20	36.08	**26.58**
Customer Goods	14	10	**24**	58.33	41.67	**100.00**	11.20	10.31	**10.81**
Health Care	5	2	**7**	71.43	28.57	**100.00**	4.00	2.06	**3.15**
Industrials	38	23	**61**	62.30	37.70	**100.00**	30.40	23.71	**27.48**
Oil and Gas	9	7	**16**	56.25	43.75	**100.00**	7.20	7.22	**7.21**
Technology	11	6	**17**	64.71	35.29	**100.00**	8.80	6.19	**7.66**
Telecommunication	4	1	**5**	80.00	20.00	**100.00**	3.20	1.03	**2.25**
Utilities	4	5	**9**	44.44	55.56	**100.00**	3.20	5.15	**4.05**
Total	**125**	**97**	**222**	**56.31**	**43.69**	**100.00**	**100.00**	**100.00**	**100.00**
Auditor									
Big4_A	39	28	**67**	58.21	41.79	**100.00**	31.20	28.87	**30.18**
Big4_B	31	28	**59**	52.54	47.46	**100.00**	24.80	28.87	**26.58**
Big4_C	32	22	**54**	59.26	40.74	**100.00**	25.60	22.68	**24.32**
Big4_D	22	14	**36**	61.11	38.89	**100.00**	17.60	14.43	**16.22**
Not Big4	1	5	**6**	16.67	83.33	**100.00**	0.80	5.15	**2.70**
Total	**125**	**97**	**222**	**56.31**	**43.69**	**100.00**	**100.00**	**100.00**	**100.00**
Single segment / Not									
Not single segment company	121	79	**200**	60.50	39.50	**100.00**	96.80	81.44	**90.09**
Single segment company	4	18	**22**	18.18	81.82	**100.00**	3.20	18.56	**9.91**
Total	**125**	**97**	**222**	**56.31**	**43.69**	**100.00**	**100.00**	**100.00**	**100.00**
FTSE 100									
FTSE 100	52	21	**73**	71.23	28.77	**100.00**	41.60	21.65	**32.88**
FTSE 250	73	76	**149**	48.99	51.01	**100.00**	58.40	78.35	**67.12**
Total	**125**	**97**	**222**	**56.31**	**43.69**	**100.00**	**100.00**	**100.00**	**100.00**
Listing status									
Cross listed	116	87	**203**	57.14	42.86	**100.00**	92.80	89.69	**91.44**
Not cross listed	9	10	**19**	47.37	52.63	**100.00**	7.20	10.31	**8.56**
Total	**125**	**97**	**222**	**56.31**	**43.69**	**100.00**	**100.00**	**100.00**	**100.00**
US listing status									
US listed	80	47	**127**	62.99	37.01	**100.00**	64.00	48.45	**57.21**
Not US listed	45	50	**95**	47.37	52.63	**100.00**	36.00	51.55	**42.79**
Total	**125**	**97**	**222**	**56.31**	**43.69**	**100.00**	**100.00**	**100.00**	**100.00**
Early adopter									
Early adopter	23	8	**31**	74.19	25.81	**100.00**	18.40	8.25	**13.96**
Not early adopter	102	89	**191**	53.40	46.60	**100.00**	81.60	91.75	**86.04**
Total	**125**	**97**	**222**	**56.31**	**43.69**	**100.00**	**100.00**	**100.00**	**100.00**
Type of reporting segment									
Business	83	58	**141**	58.87	41.13	**100.00**	66.40	59.79	**63.51**
Geo	20	18	**38**	52.63	47.37	**100.00**	16.00	18.56	**17.12**
Mixed	22	21	**43**	51.16	48.84	**100.00**	17.60	21.65	**19.37**
Total	**125**	**97**	**222**	**56.31**	**43.69**	**100.00**	**100.00**	**100.00**	**100.00**
Geo revenue disclosure under IFRS 8									
Both reporting segm. & EWI _ diff	28	8	**36**	77.78	22.22	**100.00**	22.40	8.25	**16.22**
Both reporting segm. & EWI _ same	3	1	**4**	75.00	25.00	**100.00**	2.40	1.03	**1.80**
Entity wide information	83	25	**108**	76.85	23.15	**100.00**	66.40	25.77	**48.65**
Geo reporting segment	7	16	**23**	30.43	69.57	**100.00**	5.60	16.49	**10.36**
Mixed reporting segment	4	13	**17**	23.53	76.47	**100.00**	3.20	13.40	**7.66**
No detailed geo info	0	34	**34**	0.00	100.00	**100.00**	0.00	35.05	**15.32**
Total	**125**	**97**	**222**	**56.31**	**43.69**	**100.00**	**100.00**	**100.00**	**100.00**

Appendix C. 6 Revenue information under IFRS 8 by different quantitative company characteristics

Case Summaries

GeoinfoIFRS82		Capital intensity (PPE/Total assets)	Total sales_Y0	Growth rate _ sales (without currency exchange rate change)	HHI_sales	No of foreign countries with subsidiary	No of subsidiaries in foreign countries	No of stock exc	No of foreign stock exc	Osiris _ ROE	Osiris _ Current ratio	Osiris _ Solvency ratio (Liability based)	Number of geo locations reported _ IFRS8	Individual country reported _ IFRS8	Number of regions reported _ IFRS 8
No detailed geo info	N	34	34	34	34	34	34	34	34	34	34	34	34	34	34
	Mean	35.593073	2.37735193E3	2.101289	1515.911765	1.53	2.71	3.82	2.82	17.254766	2.157059	231.455437	.00	.00	.00
	Std. Deviation	32.8002577	4.17090534E3	15.7072693	977.4212320	4.692	8.498	2.081	2.081	35.9608805	2.3048020	667.0152867	.000	.000	.000
Detailed geo info	N	188	188	188	188	188	188	188	188	188	188	188	188	188	188
	Mean	27.833600	6.73360489E3	8.949837	1690.375027	10.48	20.36	5.06	4.06	20.259752	1.531489	95.624628	4.80	2.53	2.28
	Std. Deviation	22.2653322	2.63502444E4	53.9194522	1.4511339E3	10.100	21.616	2.382	2.382	155.8353880	1.1565895	109.0649149	2.558	2.197	1.455
Total	N	222	222	222	222	222	222	222	222	222	222	222	222	222	222
	Mean	29.021988	6.06643101E3	7.900960	1663.655428	9.11	17.66	4.87	3.87	19.799529	1.627297	116.427544	4.07	2.14	1.93
	Std. Deviation	24.2480762	2.43430607E4	50.0297934	1.3886835E3	10.002	21.136	2.377	2.377	144.0237544	1.4057368	280.8973286	2.923	2.217	1.570

Case Summaries

Geo info under IFRS8		Capital intensity (PPE/Total assets)	Total sales_Y0	Growth rate _ sales (without currency exchange rate change)	HHI_sales	No of foreign countries with subsidiary	No of subsidiaries in foreign countries	No of stock exc	No of foreign stock exc	Osiris _ ROE	Osiris _ Current ratio	Osiris _ Solvency ratio (Liability based)	Number of geo locations reported _ IFRS8	Individual country reported _ IFRS8	Number of regions reported _ IFRS 8
Both reporting segment & entity wide info _ different groupping	N	36	36	36	36	36	36	36	36	36	36	36	36	36	36
	Mean	27.681650	6.46168825E3	4.487238	1571.722222	13.89	26.14	5.31	4.31	4.105867	1.266667	66.253333	5.11	2.64	2.47
	Std. Deviation	20.2478892	8.55915015E3	25.1929796	1.3043451E3	14.123	23.551	2.649	2.649	87.7111328	.7117624	64.8601270	2.435	1.823	1.558
Both reporting segment & entity wide info _ same groupping	N	4	4	4	4	4	4	4	4	4	4	4	4	4	4
	Mean	22.426781	9.13168700E3	8.550792	839.000000	14.25	22.25	4.25	3.25	15.590000	.957500	47.165000	5.00	2.50	2.50
	Std. Deviation	28.6374872	1.30477261E4	8.6818985	466.4268431	14.431	21.731	2.363	2.363	5.8332667	.2132878	25.2466150	2.944	1.000	2.646
Entity wide info	N	108	108	108	108	108	108	108	108	108	108	108	108	108	108
	Mean	27.574805	7.37844087E3	5.956380	1719.226899	9.20	19.48	5.15	4.15	42.349940	1.613889	109.131759	5.02	2.70	2.31
	Std. Deviation	22.6572875	3.37793031E4	19.3560318	1.4417578E3	8.323	22.741	2.347	2.347	142.3111380	1.0200906	126.9120848	2.785	2.435	1.392
GEO reporting segments	N	23	23	23	23	23	23	23	23	23	23	23	23	23	23
	Mean	28.015382	3.46081169E3	30.043044	2168.913043	10.22	16.26	4.57	3.57	14.962174	1.934783	117.713478	4.30	2.30	2.00
	Std. Deviation	23.9688298	7.76697497E3	145.1312868	1.8875811E3	6.835	9.555	2.273	2.273	34.1479793	2.0077008	98.1156323	1.964	2.162	1.414
Info _ all activity in one country	N	14	14	14	14	14	14	14	14	14	14	14	14	14	14
	Mean	27.816966	976.8429814	-2.097658	1279.142857	.29	.50	3.71	2.71	7.478571	3.347857	400.017489	.00	.00	.00
	Std. Deviation	36.6788030	767.5971663	22.3191664	615.3909148	.611	1.345	1.773	1.773	12.3801571	2.7537783	1.0082128E3	.000	.000	.000
Info _ no major activity in foreign countries	N	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	Mean	41.646843	3.35074860E3	5.717688	1529.900000	.50	.70	3.50	2.50	12.679205	1.031000	88.077000	.00	.00	.00
	Std. Deviation	26.0451744	6.08217304E3	4.9935121	1.1794453E3	.850	1.160	1.958	1.958	44.4333201	.4292487	64.4179485	.000	.000	.000
Info not disclosed	N	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	Mean	40.425852	3.36466779E3	4.363417	1833.400000	4.30	7.80	4.30	3.30	35.517000	1.616000	138.847000	.00	.00	.00
	Std. Deviation	34.0949320	4.55588597E3	10.6071700	1.1685151E3	8.206	14.831	2.669	2.669	44.7601634	2.0975923	286.9634367	.000	.000	.000
Mixed reporting segments	N	17	17	17	17	17	17	17	17	17	17	17	17	17	17
	Mean	30.825741	7.07646530E3	8.973326	1311.235294	10.82	18.82	4.88	3.88	-77.603609	1.158235	53.530000	3.41	1.47	1.94
	Std. Deviation	22.4290612	1.37577272E4	19.0911750	1.1612173E3	12.182	21.611	2.288	2.288	340.3636810	1.1612344	49.0806441	1.326	1.179	1.435
Total	N	222	222	222	222	222	222	222	222	222	222	222	222	222	222
	Mean	29.021988	6.06643101E3	7.900960	1663.655428	9.11	17.66	4.87	3.87	19.799529	1.627297	116.427544	4.07	2.14	1.93
	Std. Deviation	24.2480762	2.43430607E4	50.0297934	1.3886835E3	10.002	21.136	2.377	2.377	144.0237544	1.4057368	280.8973286	2.923	2.217	1.570

Appendix C. 6 (continued) Revenue information under IFRS 8 by different quantitative company characteristics

Case Summaries

NCA provided		Capital intensity (PPE/Total assets)	Total sales_Y0	Growth rate _ sales (without currency exchange rate change)	HHI_sales	No of foreign countries with subsidiary	No of subsidiaries in foreign countries	No of stock exc	No of foreign stock exc	Osiris _ ROE	Osiris _ Current ratio	Osiris _ Solvency ratio (Liability based)	Number of geo locations reported _ IFRS8	Individual country reported _ IFRS8	Number of regions reported _ IFRS 8
NCA not disclosed	N	97	97	97	97	97	97	97	97	97	97	97	97	97	97
	Mean	30.765882	3.17440418E3	2.484951	1631.525773	6.08	10.94	4.23	3.23	15.960382	1.830515	147.867163	2.46	1.09	1.37
	Std. Deviation	27.4643119	6.96532967E3	17.9940895	1.3120454E3	7.811	14.729	2.143	2.143	176.9823815	1.8263798	406.3142904	2.255	1.494	1.516
NCA disclosed	N	125	125	125	125	125	125	125	125	125	125	125	125	125	125
	Mean	27.668726	8.31064383E3	12.103784	1688.588041	11.46	22.87	5.38	4.38	22.778707	1.469600	92.030400	5.31	2.95	2.36
	Std. Deviation	21.4411415	3.17326061E4	64.5719012	1.4501039E3	10.878	23.781	2.435	2.435	112.6886817	.9391961	106.9588439	2.778	2.348	1.478
Total	N	222	222	222	222	222	222	222	222	222	222	222	222	222	222
	Mean	29.021988	6.06643101E3	7.900960	1663.655428	9.11	17.66	4.87	3.87	19.799529	1.627297	116.427544	4.07	2.14	1.93
	Std. Deviation	24.2480762	2.43430607E4	50.0297934	1.3886835E3	10.002	21.136	2.377	2.377	144.0237544	1.4057368	280.8973286	2.923	2.217	1.570

Appendix C. 7 Revenue and NCA information under IFRS 8 by different quantitative company characteristics

N=222 Categorical variables / Quantitative variables	Significant effect on dependent variable		
	Revenue		NCA
	detailed info provided or not	type of disclosure*	detailed info provided or not
Capital intensity			
parametric test	NO	NO	NO
non-parametric test	NO	NO	NO
Total sales			
parametric test	**YES**	NO	NO
non-parametric test	NO	**YES**	**YES**
Growth rate (sales)			
parametric test	NO	NO	NO
non-parametric test	NO	NO	NO
HHI_sales			
parametric test	NO	NO	NO
non-parametric test	NO	NO	NO
No of foreign countries with subsidiary			
parametric test	**YES**	NO	**YES**
non-parametric test	**YES**	**YES**	**YES**
No of subsidiaries in foreign countries			
parametric test	**YES**	NO	**YES**
non-parametric test	**YES**	**YES**	**YES**
No of stock exchanges			
parametric test	**YES**	NO	**YES**
non-parametric test	**YES**	NO	**YES**
No of foreign stock excanges			
parametric test	**YES**	NO	**YES**
non-parametric test	**YES**	NO	**YES**
Profitability _ ROE			
parametric test	NO	**YES**	NO
non-parametric test	NO	NO	NO
Current ratio			
parametric test	**YES**	**YES**	NO
non-parametric test	NO	**YES**	NO
Gearing (liablity based)			
parametric test	**YES**	**YES**	NO
non-parametric test	NO	**YES**	NO
No of geo locations reported			
parametric test	**YES**	**YES**	**YES**
non-parametric test	**YES**	**YES**	**YES**
No of individual countries reported			
parametric test	**YES**	**YES**	**YES**
non-parametric test	**YES**	**YES**	**YES**
No of regions reported			
parametric test	**YES**	**YES**	**YES**
non-parametric test	**YES**	**YES**	**YES**

* : singificant at the 0.05 level

**: Entity wide information, Geo reporting segments, Mixed reporting segments, Both entity wide and reporting segments info _same structure, Both entity wide and reporting segments info _ different structure, All revenue generated in one country, No major revenue from foreign countries, Geo info not provided

Appendix C. 8 The number of geographic locations and countries disclosed under IAS 14R and IFRS 8

Panel A: The number of geographic locations disclosed under IAS 14R and IFRS 8

IAS14R \ IFRS8		Number of geograpic locations																
		0	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**Total**
Number of geographic locations	**0**	33	0	7	1	2	0	0	0	0	0	0	0	0	0	0	0	**43**
	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
	2	0	0	17	6	5	0	0	1	0	0	0	0	1	0	0	0	**30**
	3	1	0	1	18	10	4	1	5	1	0	0	0	0	0	0	0	**41**
	4	0	0	3	7	30	5	2	4	2	0	1	1	0	0	0	0	**55**
	5	0	0	2	1	1	11	4	1	2	2	1	0	1	0	0	0	**26**
	6	0	0	0	0	1	1	4	1	2	0	0	0	0	0	0	1	**10**
	7	0	0	0	0	0	1	1	1	2	1	1	0	0	0	0	0	**7**
	8	0	0	0	0	1	0	0	0	1	1	1	0	0	0	0	0	**4**
	9	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	**3**
	10	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	**2**
	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
	15	0 `		0	0	0	0	0	0	0	0	0	0	0	0	0	1	**1**
Total		**34**	**0**	**30**	**33**	**50**	**22**	**12**	**13**	**10**	**5**	**7**	**2**	**2**	**0**	**0**	**2**	**222**

based on geographic revenue disclosure

Panel B: The number of countries disclosed under IAS 14R and IFRS 8

IAS14R \ IFRS8		Number of countries																
		0	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**Total**
Number of countries	**0**	43	13	14	6	6	0	0	1	0	0	0	0	0	0	0	0	**83**
	1	2	46	11	13	5	5	0	0	2	0	1	0	0	0	0	0	**85**
	2	1	1	20	0	3	0	0	1	0	0	0	1	0	0	0	0	**27**
	3	0	0	0	7	3	0	2	0	0	0	0	1	0	0	0	0	**13**
	4	0	0	3	0	2	0	0	0	0	0	0	0	0	0	0	0	**5**
	5	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	**2**
	6	0	0	0	0	1	0	2	0	1	0	0	0	0	0	0	0	**4**
	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
	9	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	**2**
	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
	12	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	**1**
	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total		**46**	**60**	**48**	**26**	**20**	**7**	**4**	**2**	**3**	**1**	**1**	**3**	**1**	**0**	**0**	**0**	222

based on geographic revenue disclosure

Appendix C. 9 Extract from the Annual Report and Financial Statements (2009 and 2010) of Hays Plc

Panel A

Net fees and profit from continuing operations

The Group does not split turnover by segment in internal reports, as remuneration of temporary workers and payments to other recruitment agencies, where the Group acts as principal, are not considered relevant in allocating resources to segments. The Group's chief operating decision maker instead focuses on net fees. The reconciliation of turnover to net fees can be found in note 6.

Net fees and profit from continuing operations

(In £'s million)	2010	2009
Net fees from continuing operations		
Asia Pacific	**146.3**	149.1
Continental Europe & Rest of World	**167.5**	191.0
United Kingdom & Ireland	**243.9**	330.7
	557.7	670.8

(In £'s million)	2010 Before exceptional items	2010 Exceptional items	2010	2009
Operating profit from continuing operations				
Asia Pacific	52.0	–	**52.0**	61.4
Continental Europe & Rest of World	17.1	(1.4)	**15.7**	33.1
United Kingdom & Ireland	11.4	(40.0)	**(28.6)**	63.5
	80.5	(41.4)	**39.1**	158.0

Hays Plc, Annual Report and Financial Statements 2010, p76.

Panel B

Turnover and profit from operations

(In £'s million)	2009	2008
Turnover from continuing operations		
United Kingdom & Ireland	**1,395.7**	1,571.5
Continental Europe & Rest of World	**587.9**	482.2
Asia Pacific	**464.1**	486.3
	2,447.7	2,540.0
Net fees from continuing operations		
United Kingdom & Ireland	**330.7**	452.9
Continental Europe & Rest of World	**191.0**	157.7
Asia Pacific	**149.1**	176.2
	670.8	786.8
Operating profit from continuing operations		
United Kingdom & Ireland		
Operating profit from continuing operations before exceptional items	**63.5**	137.3
Exceptional items	**–**	15.3
United Kingdom & Ireland	**63.5**	152.6
Continental Europe & Rest of World	**33.1**	33.1
Asia Pacific	**61.4**	83.4
	158.0	269.1

Hays Plc, Annual Report and Financial Statements 2009, p74.

Appendix C. 10 Paired sample t-test for the number of locations / countries / regions

N=178

Panel A

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Number of geo locations reported _ IAS 14	4.12	178	1.869	.140
	Number of geo locations reported _ IFRS8	4.93	178	2.561	.192
Pair 2	Individual country reported _ IAS 14	1.47	178	1.691	.127
	Individual country reported _ IFRS8	2.59	178	2.236	.168
Pair 3	Number of regions reported _ IAS 14	2.65	178	1.399	.105
	Number of regions reported _ IFRS 8	2.34	178	1.454	.109

Panel B

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	Number of geo locations reported _ IAS 14 & Number of geo locations reported _ IFRS8	178	.664	.000
Pair 2	Individual country reported _ IAS 14 & Individual country reported _ IFRS8	178	.577	.000
Pair 3	Number of regions reported _ IAS 14 & Number of regions reported _ IFRS 8	178	.759	.000

Panel C

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	Number of geo locations reported _ IAS 14 - Number of geo locations reported _ IFRS8	-.815	1.924	.144	-1.099	-.530	-5.650	177	.000
Pair 2	Individual country reported _ IAS 14 - Individual country reported _ IFRS8	-1.124	1.870	.140	-1.400	-.847	-8.014	177	.000
Pair 3	Number of regions reported _ IAS 14 - Number of regions reported _ IFRS 8	.309	.992	.074	.162	.456	4.158	177	.000

N=155

Panel A

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Number of geo locations reported _ IAS 14	4.08	155	1.888	.152
	Number of geo locations reported _ IFRS8	5.04	155	2.680	.215
Pair 2	Individual country reported _ IAS 14	1.45	155	1.563	.126
	Individual country reported _ IFRS8	2.77	155	2.186	.176
Pair 3	Number of regions reported _ IAS 14	2.63	155	1.368	.110
	Number of regions reported _ IFRS 8	2.27	155	1.420	.114

Panel B

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	Number of geo locations reported _ IAS 14 & Number of geo locations reported _ IFRS8	155	.678	.000
Pair 2	Individual country reported _ IAS 14 & Individual country reported _ IFRS8	155	.527	.000
Pair 3	Number of regions reported _ IAS 14 & Number of regions reported _ IFRS 8	155	.738	.000

Panel C

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	Number of geo locations reported _ IAS 14 - Number of geo locations reported _ IFRS8	-.961	1.970	.158	-1.274	-.649	-6.075	154	.000
Pair 2	Individual country reported _ IAS 14 - Individual country reported _ IFRS8	-1.316	1.903	.153	-1.618	-1.014	-8.612	154	.000
Pair 3	Number of regions reported _ IAS 14 - Number of regions reported _ IFRS 8	.355	1.011	.081	.194	.515	4.369	154	.000

Appendix C. 11 The number of geographic locations / countries / regions disclosed under IAS 14R and IFRS 8 by different categorical company characteristics (N=178)

N=178	Companies*		Geographic locations						Countries						Geographic regions					
Categories			IAS 14		IFRS 8		Change		IAS 14		IFRS 8		Change		IAS 14		IFRS 8		Change	
	Number	%	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
Industry																				
Basic Materials	20	11.24	5.30	2.43	6.85	3.57	1.55	3.05	2.20	2.38	3.65	3.39	1.45	2.96	3.10	2.05	3.20	1.85	0.10	0.97
Consumer Services	36	20.22	3.47	1.40	4.06	2.10	0.58	1.48	1.42	1.11	2.11	1.82	0.69	1.64	2.06	1.07	1.94	1.29	-0.11	0.82
Customer Goods	18	10.11	3.39	1.09	4.44	2.04	1.06	1.80	0.61	0.50	2.17	1.34	1.56	1.46	2.78	1.17	2.28	1.36	-0.50	1.25
Health Care	7	3.93	5.43	4.28	5.71	4.23	0.29	1.25	3.00	4.00	3.43	3.95	0.43	1.27	2.43	0.79	2.29	1.38	-0.14	0.69
Industrials	56	31.46	4.20	1.54	4.91	2.24	0.71	1.95	1.30	1.13	2.43	1.79	1.13	1.63	2.89	1.36	2.48	1.36	-0.41	1.02
Oil and Gas	15	8.43	4.27	1.71	4.60	1.96	0.33	1.23	1.93	2.63	3.27	2.52	1.33	2.02	2.33	1.54	1.33	1.18	-1.00	1.25
Technology	17	9.55	3.88	1.22	5.12	2.26	1.24	2.05	0.94	1.14	2.35	2.26	1.41	2.18	2.94	1.09	2.76	1.15	-0.18	0.73
Telecommunication	4	2.25	5.50	3.00	6.25	2.87	0.75	1.50	2.25	2.22	3.00	2.94	0.75	1.50	3.25	1.71	3.25	1.71	0.00	0.00
Utilities	5	2.81	3.20	1.30	3.80	2.49	0.60	1.52	1.40	0.55	2.40	1.14	1.00	1.41	1.80	1.48	1.40	1.52	-0.40	0.55
Total	**178**	**100.00**	**4.12**	**1.87**	**4.93**	**2.56**	**0.81**	**1.92**	**1.47**	**1.69**	**2.59**	**2.24**	**1.12**	**1.87**	**2.65**	**1.40**	**2.34**	**1.45**	**-0.31**	**0.99**
Auditor																				
Big4_A	57	32.02	3.96	1.49	4.77	2.06	0.81	1.73	1.33	1.34	2.42	1.87	1.09	1.75	2.63	1.28	2.35	1.32	-0.28	1.05
Big4_B	47	26.40	4.11	1.88	4.89	2.72	0.79	1.99	1.43	1.36	2.43	2.00	1.00	1.90	2.68	1.49	2.47	1.57	-0.21	0.88
Big4_C	42	23.60	4.67	2.37	5.31	3.01	0.64	1.94	1.62	2.27	2.76	2.64	1.14	1.69	3.05	1.32	2.55	1.47	-0.50	1.11
Big4_D	29	16.29	3.79	1.68	4.83	2.61	1.03	2.23	1.66	1.91	2.90	2.70	1.24	2.32	2.14	1.51	1.93	1.51	-0.21	0.86
Not Big4	3	1.69	2.67	0.58	4.33	2.52	1.67	2.08	0.67	0.58	3.00	2.00	2.33	2.08	2.00	1.00	1.33	0.58	-0.67	1.15
Total	**178**	**100.00**	**4.12**	**1.87**	**4.93**	**2.56**	**0.81**	**1.92**	**1.47**	**1.69**	**2.59**	**2.24**	**1.12**	**1.87**	**2.65**	**1.40**	**2.34**	**1.45**	**-0.31**	**0.99**
Single segment / Not																				
Not single segment company	172	96.63	4.10	1.68	4.88	2.40	0.78	1.82	1.41	1.51	2.51	2.05	1.10	1.80	2.69	1.37	2.37	1.45	-0.33	1.00
Single segment company	6	3.37	4.67	5.20	6.50	5.61	1.83	4.02	3.17	4.40	4.83	5.19	1.67	3.61	1.50	1.76	1.67	1.63	0.17	0.41
Total	**178**	**100.00**	**4.12**	**1.87**	**4.93**	**2.56**	**0.81**	**1.92**	**1.47**	**1.69**	**2.59**	**2.24**	**1.12**	**1.87**	**2.65**	**1.40**	**2.34**	**1.45**	**-0.31**	**0.99**
FTSE 100																				
FTSE 100	66	37.08	4.61	2.28	5.62	2.87	1.02	1.97	1.42	1.86	2.88	2.29	1.45	1.95	3.18	1.38	2.74	1.57	-0.44	1.10
FTSE 250	112	62.92	3.83	1.52	4.53	2.28	0.70	1.89	1.49	1.59	2.42	2.20	0.93	1.80	2.34	1.32	2.11	1.33	-0.23	0.92
Total	**178**	**100.00**	**4.12**	**1.87**	**4.93**	**2.56**	**0.81**	**1.92**	**1.47**	**1.69**	**2.59**	**2.24**	**1.12**	**1.87**	**2.65**	**1.40**	**2.34**	**1.45**	**-0.31**	**0.99**
Listing status																				
Cross listed	164	92.13	4.18	1.92	4.95	2.57	0.76	1.90	1.47	1.73	2.56	2.20	1.09	1.83	2.71	1.41	2.38	1.48	-0.33	1.03
Not cross listed	14	7.87	3.36	0.93	4.79	2.58	1.43	2.14	1.43	1.16	2.93	2.70	1.50	2.35	1.93	1.07	1.86	1.10	-0.07	0.27
Total	**178**	**100.00**	**4.12**	**1.87**	**4.93**	**2.56**	**0.81**	**1.92**	**1.47**	**1.69**	**2.59**	**2.24**	**1.12**	**1.87**	**2.65**	**1.40**	**2.34**	**1.45**	**-0.31**	**0.99**
US listing status																				
US listed	109	61.24	4.43	1.96	5.26	2.66	0.83	1.89	1.52	1.89	2.73	2.32	1.21	1.89	2.91	1.39	2.52	1.54	-0.39	1.04
Not US listed	69	38.76	3.62	1.60	4.42	2.32	0.80	2.00	1.38	1.33	2.36	2.09	0.99	1.85	2.25	1.33	2.06	1.26	-0.19	0.90
Total	**178**	**100.00**	**4.12**	**1.87**	**4.93**	**2.56**	**0.81**	**1.92**	**1.47**	**1.69**	**2.59**	**2.24**	**1.12**	**1.87**	**2.65**	**1.40**	**2.34**	**1.45**	**-0.31**	**0.99**
Early adopter																				
Early adopter	27	15.17	3.93	1.69	5.07	2.57	1.15	2.01	1.30	1.17	2.85	2.14	1.56	2.12	2.63	1.47	2.22	1.48	-0.41	1.12
Not early adopter	151	84.83	4.15	1.90	4.91	2.57	0.76	1.91	1.50	1.77	2.54	2.26	1.05	1.82	2.66	1.39	2.36	1.45	-0.29	0.97
Total	**178**	**100.00**	**4.12**	**1.87**	**4.93**	**2.56**	**0.81**	**1.92**	**1.47**	**1.69**	**2.59**	**2.24**	**1.12**	**1.87**	**2.65**	**1.40**	**2.34**	**1.45**	**-0.31**	**0.99**
Type of reporting segment																				
Business	98	55.06	4.19	1.99	5.28	2.79	1.08	2.02	1.40	1.80	2.84	2.51	1.44	2.03	2.80	1.27	2.44	1.38	-0.36	1.03
Geo	37	20.79	4.08	1.82	4.92	2.23	0.84	1.71	1.81	2.05	2.65	2.29	0.84	1.76	2.27	1.39	2.27	1.45	0.00	0.71
Mixed	43	24.16	3.98	1.66	4.16	2.14	0.19	1.75	1.33	0.92	1.98	1.23	0.65	1.45	2.65	1.65	2.19	1.64	-0.47	1.08
Total	**178**	**100.00**	**4.12**	**1.87**	**4.93**	**2.56**	**0.81**	**1.92**	**1.47**	**1.69**	**2.59**	**2.24**	**1.12**	**1.87**	**2.65**	**1.40**	**2.34**	**1.45**	**-0.31**	**0.99**
Geo disclosure under IFRS 8																				
Both reporting segm. & EWI _ diff	36	20.22	3.89	1.41	5.11	2.43	1.22	2.06	0.94	0.75	2.64	1.82	1.69	1.65	2.94	1.31	2.47	1.56	-0.47	1.16
Both reporting segm. & EWI _ same	4	2.25	3.50	2.38	5.00	2.94	1.50	1.73	1.25	0.96	2.50	1.00	1.25	1.89	2.25	2.87	2.50	2.65	0.25	0.50
Entity wide information	98	55.06	4.19	1.99	5.28	2.79	1.08	2.02	1.40	1.80	2.84	2.51	1.44	2.03	2.80	1.27	2.44	1.38	-0.36	1.03
Geo reporting segment	23	12.92	4.39	2.08	4.30	1.96	-0.09	0.60	2.43	2.31	2.30	2.16	-0.13	0.63	1.96	1.46	2.00	1.41	0.04	0.37
Mixed reporting segment	17	9.55	3.94	1.71	3.41	1.33	-0.53	1.33	1.71	1.10	1.47	1.18	-0.24	1.03	2.24	1.56	1.94	1.44	-0.29	0.99
Total	**178**	**100.00**	**4.12**	**1.87**	**4.93**	**2.56**	**0.81**	**1.92**	**1.47**	**1.69**	**2.59**	**2.24**	**1.12**	**1.87**	**2.65**	**1.40**	**2.34**	**1.45**	**-0.31**	**0.99**
Revenue attribution																				
Customer location	82	46.07	4.16	1.87	5.38	2.83	1.22	2.08	1.35	1.45	2.79	2.39	1.44	2.07	2.80	1.49	2.59	1.49	-0.22	0.88
Origin	44	24.72	4.57	2.32	4.95	2.63	0.39	1.73	1.95	2.36	2.75	2.63	0.80	1.82	2.61	1.26	2.20	1.46	-0.41	0.90
Not mentioned	52	29.21	3.67	1.29	4.21	1.83	0.54	1.71	1.23	1.26	2.13	1.46	0.90	1.49	2.44	1.36	2.08	1.36	-0.37	1.22
Total	**178**	**100.00**	**4.12**	**1.87**	**4.93**	**2.56**	**0.81**	**1.92**	**1.47**	**1.69**	**2.59**	**2.24**	**1.12**	**1.87**	**2.65**	**1.40**	**2.34**	**1.45**	**-0.31**	**0.99**

*: IFRS8 first adoption

Appendix C. 12 The number of geographic locations / countries / regions disclosed under IAS 14R and IFRS 8 by different categorical company characteristics (N=155)

N=155	Companies*		Geographic locations						Countries						Geographic regions					
Categories			IAS 14		IFRS 8		Change		IAS 14		IFRS 8		Change		IAS 14		IFRS 8		Change	
	Number	%	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
Industry																				
Basic Materials	15	9.68	5.47	2.70	7.67	3.77	2.20	3.19	2.07	2.43	4.27	3.65	2.20	3.03	3.40	2.13	3.40	1.88	0.00	1.07
Consumer Services	34	21.94	3.47	1.40	4.03	2.15	0.56	1.50	1.47	1.10	2.21	1.82	0.74	1.68	2.00	1.04	1.82	1.22	-0.18	0.76
Customer Goods	17	10.97	3.41	1.12	4.53	2.07	1.12	1.83	0.65	0.49	2.29	1.26	1.65	1.46	2.76	1.20	2.24	1.39	-0.53	1.28
Health Care	6	3.87	5.50	4.68	5.83	4.62	0.33	1.37	3.33	4.27	4.00	4.00	0.67	1.21	2.17	0.41	1.83	0.75	-0.33	0.52
Industrials	53	34.19	4.13	1.49	4.96	2.30	0.83	1.89	1.34	1.13	2.57	1.74	1.23	1.60	2.79	1.31	2.40	1.35	-0.40	1.03
Oil and Gas	8	5.16	4.00	1.07	4.75	1.67	0.75	1.58	1.25	1.58	3.63	1.60	2.38	2.33	2.75	1.28	1.13	0.35	-1.63	1.41
Technology	14	9.03	4.00	1.30	5.43	2.38	1.43	2.21	1.14	1.17	2.71	2.30	1.57	2.34	2.86	1.17	2.71	1.20	-0.14	0.77
Telecommunication	3	1.94	6.00	3.46	7.00	3.00	1.00	1.73	3.00	2.00	4.00	2.65	1.00	1.73	3.00	2.00	3.00	2.00	0.00	0.00
Utilities	5	3.23	3.20	1.30	3.80	2.49	0.60	1.52	1.40	0.55	2.40	1.14	1.00	1.41	1.80	1.48	1.40	1.52	-0.40	0.55
Total	**155**	**100.00**	**4.08**	**1.89**	**5.04**	**2.68**	**0.96**	**1.97**	**1.45**	**1.56**	**2.77**	**2.19**	**1.32**	**1.90**	**2.63**	**1.37**	**2.27**	**1.42**	**-0.35**	**1.01**
Auditor																				
Big4_A	50	32.26	3.96	1.44	4.90	2.16	0.94	1.68	1.46	1.36	2.74	1.77	1.28	1.76	2.50	1.23	2.16	1.27	-0.34	1.02
Big4_B	40	2.57	4.05	2.00	5.00	2.91	0.95	2.11	1.43	1.22	2.63	1.92	1.20	1.99	2.62	1.46	2.38	1.53	-0.25	0.93
Big4_C	38	24.52	4.63	2.36	5.32	3.09	0.68	2.03	1.55	2.01	2.76	2.50	1.21	1.74	3.08	1.28	2.55	1.45	-0.53	1.16
Big4_D	24	15.48	3.67	1.63	5.04	2.77	1.38	2.24	1.42	1.82	3.04	2.93	1.63	2.32	2.25	1.54	2.00	1.53	-0.25	0.90
Not Big4	3	1.94	2.67	0.58	4.33	2.52	1.67	2.08	0.67	0.58	3.00	2.00	2.33	2.08	2.00	1.00	1.33	0.58	-0.67	1.15
Total	**155**	**100.00**	**4.08**	**1.89**	**5.04**	**2.68**	**0.96**	**1.97**	**1.45**	**1.56**	**2.77**	**2.19**	**1.32**	**1.90**	**2.63**	**1.37**	**2.27**	**1.42**	**-0.35**	**1.01**
Single segment / Not																				
Not single segment company	149	96.13	4.05	1.67	4.98	2.51	0.93	1.86	1.38	1.33	2.68	1.97	1.30	1.82	2.67	1.34	2.30	1.41	-0.38	1.02
Single segment company	6	0.39	4.67	5.20	6.50	5.61	1.83	4.02	3.17	4.40	4.83	5.19	1.67	3.61	1.50	1.76	1.67	1.63	0.17	0.41
Total	**155**	**100.00**	**4.08**	**1.89**	**5.04**	**2.68**	**0.96**	**1.97**	**1.45**	**1.56**	**2.77**	**2.19**	**1.32**	**1.90**	**2.63**	**1.37**	**2.27**	**1.42**	**-0.35**	**1.01**
FTSE 100																				
FTSE 100	57	36.77	4.70	2.35	5.88	2.99	1.18	1.98	1.53	1.96	3.23	2.25	1.70	1.97	3.18	1.35	2.65	1.58	-0.53	1.07
FTSE 250	98	63.23	3.71	1.46	4.55	2.36	0.84	1.96	1.41	1.29	2.50	2.11	1.09	1.83	2.31	1.28	2.05	1.28	-0.26	0.97
Total	**155**	**100.00**	**4.08**	**1.89**	**5.04**	**2.68**	**0.96**	**1.97**	**1.45**	**1.56**	**2.77**	**2.19**	**1.32**	**1.90**	**2.63**	**1.37**	**2.27**	**1.42**	**-0.35**	**1.01**
Listing status																				
Cross listed	142	91.61	4.14	1.94	5.05	2.69	0.91	1.95	1.44	1.60	2.73	2.14	1.29	1.86	2.70	1.37	2.32	1.44	-0.38	1.05
Not cross listed	13	8.39	3.38	0.96	4.92	2.63	1.54	2.18	1.54	1.13	3.15	2.67	1.62	2.40	1.85	1.07	1.77	1.09	-0.08	0.28
Total	**155**	**100.00**	**4.08**	**1.89**	**5.04**	**2.68**	**0.96**	**1.97**	**1.45**	**1.56**	**2.77**	**2.19**	**1.32**	**1.90**	**2.63**	**1.37**	**2.27**	**1.42**	**-0.35**	**1.01**
US listing status																				
US listed	93	60.00	4.44	1.98	5.43	2.78	0.99	1.93	1.51	1.76	2.94	2.24	1.43	1.92	2.94	1.33	2.49	1.52	-0.44	1.07
Not US listed	62	40.00	3.53	1.61	4.45	2.43	0.92	2.04	1.37	1.23	2.52	2.10	1.15	1.87	2.16	1.31	1.94	1.20	-0.23	0.91
Total	**155**	**100.00**	**4.08**	**1.89**	**5.04**	**2.68**	**0.96**	**1.97**	**1.45**	**1.56**	**2.77**	**2.19**	**1.32**	**1.90**	**2.63**	**1.37**	**2.27**	**1.42**	**-0.35**	**1.01**
Early adopter																				
Early adopter	23	14.84	3.96	1.77	5.30	2.69	1.35	2.12	1.39	1.23	3.22	2.09	1.83	2.17	2.57	1.50	2.09	1.35	-0.48	1.16
Not early adopter	132	85.16	4.10	1.91	4.99	2.69	0.89	1.94	1.46	1.62	2.69	2.20	1.23	1.85	2.64	1.35	2.30	1.44	-0.33	0.99
Total	**155**	**100.00**	**4.08**	**1.89**	**5.04**	**2.68**	**0.96**	**1.97**	**1.45**	**1.56**	**2.77**	**2.19**	**1.32**	**1.90**	**2.63**	**1.37**	**2.27**	**1.42**	**-0.35**	**1.01**
Type of reporting segment																				
Business	87	56.13	4.28	2.07	5.44	2.91	1.16	2.12	1.52	1.86	3.10	2.52	1.59	2.09	2.76	1.28	2.33	1.34	-0.43	1.03
Geo	29	18.71	3.79	1.66	4.97	2.31	1.17	1.75	1.48	1.35	2.62	1.99	1.14	1.85	2.31	1.29	2.34	1.40	0.03	0.78
Mixed	39	25.16	3.85	1.58	4.21	2.23	0.36	1.66	1.28	0.83	2.13	1.15	0.85	1.35	2.56	1.60	2.08	1.61	-0.49	1.07
Total	**155**	**9.95**	**4.08**	**1.89**	**5.04**	**2.68**	**0.96**	**1.97**	**1.45**	**1.56**	**2.77**	**2.19**	**1.32**	**1.90**	**2.63**	**1.37**	**2.27**	**1.42**	**-0.35**	**1.01**
Geo disclosure under IFRS 8																				
Both reporting segm. & EWI _ diff	36	23.23	3.89	1.41	5.11	2.44	1.22	2.06	0.94	0.75	2.64	1.82	1.69	1.65	2.94	1.31	2.47	1.56	-0.47	1.16
Both reporting segm. & EWI _ same	4	2.58	3.50	2.38	5.00	2.94	1.50	1.73	1.25	0.96	2.50	1.00	1.25	1.89	2.25	2.87	2.50	2.65	0.25	0.50
Entity wide information	87	56.13	4.28	2.07	5.44	2.91	1.16	2.12	1.52	1.86	3.10	2.52	1.59	2.09	2.76	1.28	2.33	1.34	-0.43	1.03
Geo reporting segment	15	9.68	4.00	2.04	4.07	1.94	0.07	0.46	2.13	1.41	2.07	1.28	-0.07	0.59	1.87	1.30	2.00	1.31	0.13	0.35
Mixed reporting segment	13	8.39	3.54	1.45	3.31	1.44	-0.23	1.01	1.69	0.95	1.77	1.09	0.08	0.86	1.85	1.21	1.54	1.13	-0.31	0.95
Total	**155**	**100.00**	**4.08**	**1.89**	**5.04**	**2.68**	**0.96**	**1.97**	**1.45**	**1.56**	**2.77**	**2.19**	**1.32**	**1.90**	**2.63**	**1.37**	**2.27**	**1.42**	**-0.35**	**1.01**
Revenue attribution																				
Customer location	76	49.03	4.21	1.91	5.47	2.92	1.26	2.15	1.42	1.47	2.95	2.41	1.53	2.12	2.79	1.51	2.53	1.51	-0.26	0.85
Origin	35	22.58	4.57	2.38	5.11	2.77	0.54	1.88	1.91	2.15	2.94	2.56	1.03	1.95	2.66	1.16	2.17	1.38	-0.49	0.98
Not mentioned	44	28.39	3.45	1.13	4.23	1.94	0.77	0.64	1.14	1.03	2.32	1.25	1.18	1.40	2.32	1.24	1.91	1.22	-0.41	1.26
Total	**155**	**100.00**	**4.08**	**1.89**	**5.04**	**2.68**	**0.96**	**1.97**	**1.45**	**1.56**	**2.77**	**2.19**	**1.32**	**1.90**	**2.63**	**1.37**	**2.27**	**1.42**	**-0.35**	**1.01**

*: IFRS8 first adoption

Appendix C. 13 The effect of different company characteristics on the number of geographic locations, countries and regions reported by the companies

Panel A

N=178	Significant effect on dependent variable					
	Number of geo locations		Number of countries		Number of geo regions	
Categorical variables / Test	**IAS 14R**	**IFRS 8**	**IAS 14R**	**IFRS 8**	**IAS 14R**	**IFRS 8**
Identity of the auditor						
parametric test	NO	NO	NO	NO	NO	NO
non-parametric test	NO	NO	NO	NO	NO	NO
Industry type						
parametric test	NO	NO	NO	NO	NO	**YES**
non-parametric test	**YES**	NO	**YES**	NO	**YES**	**YES**
Early adoption						
parametric test	NO	NO	NO	NO	NO	NO
non-parametric test	NO	NO	NO	NO	NO	NO
Cross listing						
parametric test	NO	NO	NO	NO	**YES**	NO
non-parametric test	NO	NO	NO	NO	**YES**	NO
US listing						
parametric test	**YES**	**YES**	NO	NO	**YES**	**YES**
non-parametric test	**YES**	**YES**	NO	NO	**YES**	**YES**
Type of reportable segment						
parametric test	NO	NO	NO	NO	NO	NO
non-parametric test	NO	**YES**	NO	NO	NO	NO
FTSE 100 / 250						
parametric test	**YES**	**YES**	NO	NO	**YES**	**YES**
non-parametric test	**YES**	**YES**	NO	NO	**YES**	**YES**
Single segment						
parametric test	NO	NO	NO	NO	**YES**	NO
non-parametric test	NO	NO	NO	NO	NO	NO

Panel B

N=155	Significant effect on dependent variable					
	Number of geo locations		Number of countries		Number of geo regions	
Categorical variables / Test	**IAS 14R**	**IFRS 8**	**IAS 14R**	**IFRS 8**	**IAS 14R**	**IFRS 8**
Identity of the auditor						
parametric test	NO	NO	NO	NO	NO	NO
non-parametric test	NO	NO	NO	NO	NO	NO
Industry type						
parametric test	NO	**YES**	**YES**	NO	NO	**YES**
non-parametric test	NO	**YES**	**YES**	NO	**YES**	**YES**
Early adoption						
parametric test	NO	NO	NO	NO	NO	NO
non-parametric test	NO	NO	NO	NO	NO	NO
Cross listing						
parametric test	NO	NO	NO	NO	**YES**	NO
non-parametric test	NO	NO	NO	NO	**YES**	NO
US listing						
parametric test	**YES**	**YES**	NO	NO	**YES**	**YES**
non-parametric test	**YES**	**YES**	NO	NO	**YES**	**YES**
Type of reportable segment						
parametric test	NO	NO	NO	**YES**	NO	NO
non-parametric test	NO	**YES**	NO	NO	NO	NO
FTSE 100 / 250						
parametric test	**YES**	**YES**	NO	**YES**	**YES**	**YES**
non-parametric test	**YES**	**YES**	NO	**YES**	**YES**	**YES**
Single segment						
parametric test	NO	NO	NO	NO	**YES**	NO
non-parametric test	NO	NO	NO	NO	NO	NO

Appendix C. 14 Revenue distribution under IAS 14R and IFRS 8

Panel A

Revenue distribution	**IAS14 R**		**IFRS8**	
N=178	**£m**	**%**	**£m**	**%**
Revenue by country	534,768	43.85	621,505	49.55
Revenue by continent	432,919	35.50	320,111	25.52
Revenue by multicontinent	150,058	12.31	76,189	6.08
Revenue by foreign & other / ROW	101,707	8.34	236,418	18.85
Total	**1,219,453**	**100.00**	**1,254,223**	**100.00**

Panel B

Revenue distribution	**IAS14 R**		**IFRS8**	
N=155	**£m**	**%**	**£m**	**%**
Revenue by country	480,767	47.97	545,494	60.32
Revenue by continent	339,237	33.85	163,417	18.07
Revenue by multicontinent	84,135	8.39	44,399	4.91
Revenue by foreign & other / ROW	98,102	9.79	151,053	16.70
Total	**1,002,241**	**100.00**	**904,362**	**100.00**

Appendix C. 15 The proportion of revenue reported by country / ROW under IAS 14R and IFRS 8

Panel A

	N=178								N=155							
	IAS 14 R				IFRS 8				IAS 14 R				IFRS 8			
	Company								Company							
			cumulative				cumulative				cumulative				cumulative	
Revenue % by country	number	%	number	%	number	%	number	%	number	%	number	%	number	%	number	%
0.00 - 10.00	48	26.97	48	26.97	19	10.67	19	10.67	37	23.87	37	23.87	7	4.52	7	4.52
10.01 - 20.00	19	10.67	67	37.64	10	5.62	29	16.29	18	11.61	55	35.48	10	6.45	17	10.97
20.01 - 30.00	14	7.87	81	45.51	13	7.30	42	23.60	12	7.74	67	43.23	11	7.10	28	18.06
30.01 - 40.00	9	5.06	90	50.56	10	5.62	52	29.21	8	5.16	75	48.39	10	6.45	38	24.52
40.01 - 50.00	11	6.18	101	56.74	19	10.67	71	39.89	11	7.10	86	55.48	18	11.61	56	36.13
50.01 - 60.00	12	6.74	113	63.48	12	6.74	83	46.63	12	7.74	98	63.23	11	7.10	67	43.23
60.01 - 70.00	12	6.74	125	70.22	18	10.11	101	56.74	11	7.10	109	70.32	18	11.61	85	54.84
70.01 - 80.00	10	5.62	135	75.84	18	10.11	119	66.85	10	6.45	119	76.77	18	11.61	103	66.45
80.01 - 90.00	10	5.62	145	81.46	21	11.80	140	78.65	9	5.81	128	82.58	20	12.90	123	79.35
90.01 - 100.00	33	18.54	178	100.00	38	21.35	178	100.00	27	17.42	155	100.00	32	20.65	155	100.00
Total	**178**	**100.00**			**178**	**100.00**			**155**	**100.00**			**155**	**100.00**		
0.00	**40**	**22.47**			**12**	**6.74**			**29**	**18.71**			**0**	**0.00**		
100.00	**14**	**7.87**			**13**	**7.30**			**11**	**7.10**			**9**	**5.81**		
								%								
Mean				**43.36**				**58.21**				**44.45**				**61.52**
Median				38.51				63.31				43.08				67.49
Minimum				0.00				0.00				0.00				1.19
Maximum				100.00				100.00				100.00				100.00
Range				**100.00**				**100.00**				**100.00**				**98.81**
Std. Deviation				**36.69**				**32.22**				**35.63**				**28.82**
Change in revenue % provided by country	**Company**															
	number				**%**				**number**				**%**			
Increase				101				56.74				98				63.23
Decrease				56				31.46				49				31.61
No change				21				11.80				8				5.16
Total				**178**				**100.00**				**155**				**100.00**

Panel B

	N=178								**N=155**							
	IAS 14 R				**IFRS 8**				**IAS 14 R**				**IFRS 8**			
	Company								**Company**							
			cumulative				**cumulative**				**cumulative**				**cumulative**	
Revenue % by ROW	**number**	**%**	**number**	**%**	**number**	**%**	**number**	**%**	**number**	**%**	**number**	**%**	**number**	**%**	**number**	**%**
0.00 - 10.00	144	80.90	144	80.90	125	70.22	125	70.22	124	80.00	124	80.00	105	67.74	105	67.74
10.01 - 20.00	15	8.43	159	89.33	18	10.11	143	80.34	13	8.39	137	88.39	18	11.61	123	79.35
20.01 - 30.00	12	6.74	171	96.07	11	6.18	154	86.52	12	7.74	149	96.13	10	6.45	133	85.81
30.01 - 40.00	3	1.69	174	97.75	7	3.93	161	90.45	3	1.94	152	98.06	7	4.52	140	90.32
40.01 - 50.00	2	1.12	176	98.88	3	1.69	164	92.13	2	1.29	154	99.35	2	1.29	142	91.61
50.01 - 60.00	1	0.56	177	99.44	6	3.37	170	95.51	1	0.65	155	100.00	5	3.23	147	94.84
60.01 - 70.00	0	0.00	177	99.44	5	2.81	175	98.31	0	0.00	155	100.00	5	3.23	152	98.06
70.01 - 80.00	0	0.00	177	99.44	2	1.12	177	99.44	0	0.00	155	100.00	2	1.29	154	99.35
80.01 - 90.00	1	0.56	178	100.00	1	0.56	178	100.00	0	0.00	155	100.00	1	0.65	155	100.00
90.01 - 100.00	0	0.00	178	100.00	0	0.00	178	100.00	0	0.00	155	100.00	0	0.00	155	100.00
Total	**178**	**100.00**			**178**	**100.00**			**155**	**100.00**			**155**	**100.00**		
0.00	**83**	**46.63**			**62**	**34.83**			**72**	**46.45**			**53**	**34.19**		
> 0.00	**95**	**53.37**			**116**	**65.17**			**83**	**53.55**			**102**	**65.81**		
								%								
Mean				**6.25**				**11.36**				**6.22**				**12.00**
Median				0.40				2.94				0.77				2.98
Minimum				0.00				0.00				0.00				0.00
Maximum				84.93				88.48				58.98				88.48
Range				**84.93**				**88.48**				**58.98**				**88.48**
Std. Deviation				**11.49**				**18.58**				**10.33**				**19.09**
Change in revenue % provided by ROW	**Company**															
	number				**%**				**number**				**%**			
Increase				85				47.75				76				49.03
Decrease				34				19.10				28				18.06
No change				59				33.15				51				32.90
Total				**178**				**100.00**				**155**				**100.00**

Appendix C. 16 The effect of different company characteristics on the revenue % reported by country and ROW

Panel A

N=178	Significant effect on dependent variable			
	revenue % by country		revenue % by ROW	
Categorical variables / Test	IAS 14R	IFRS 8	IAS 14R	IFRS 8
Industry type				
parametric test	**YES**	NO	NO	NO
non-parametric test	**YES**	NO	NO	NO
Identity of the auditor				
parametric test	NO	NO	NO	NO
non-parametric test	NO	NO	NO	NO
Single segment				
parametric test	NO	NO	NO	NO
non-parametric test	NO	NO	NO	NO
FTSE 100 / 250				
parametric test	**YES**	NO	NO	NO
non-parametric test	**YES**	NO	NO	NO
Cross listing				
parametric test	NO	NO	NO	NO
non-parametric test	NO	NO	NO	NO
US listing				
parametric test	**YES**	NO	NO	NO
non-parametric test	**YES**	NO	NO	NO
Early adoption				
parametric test	NO	NO	NO	NO
non-parametric test	NO	NO	NO	NO
Type of reportable segment				
parametric test	NO	NO	NO	NO
non-parametric test	NO	NO	**YES**	**YES**
Geo disclosure under IFRS 8				
parametric test	**YES**	NO	NO	NO
non-parametric test	**YES**	NO	NO	NO
Revenue attribution				
parametric test	NO	NO	NO	NO
non-parametric test	NO	NO	NO	NO

Panel B

N=155	Significant effect on dependent variable			
	revenue % by country		revenue % by ROW	
Categorical variables / Test	IAS 14R	IFRS 8	IAS 14R	IFRS 8
Industry type				
parametric test	**YES**	**YES**	NO	NO
non-parametric test	**YES**	**YES**	NO	NO
Identity of the auditor				
parametric test	NO	NO	NO	NO
non-parametric test	NO	NO	NO	NO
Single segment				
parametric test	NO	NO	NO	NO
non-parametric test	NO	NO	NO	NO
FTSE 100 / 250				
parametric test	NO	NO	NO	NO
non-parametric test	NO	NO	NO	NO
Cross listing				
parametric test	NO	NO	NO	NO
non-parametric test	NO	NO	NO	NO
US listing				
parametric test	**YES**	NO	NO	NO
non-parametric test	**YES**	NO	NO	NO
Early adoption				
parametric test	NO	NO	NO	NO
non-parametric test	NO	NO	NO	NO
Type of reportable segment				
parametric test	NO	NO	NO	NO
non-parametric test	NO	NO	NO	NO
Geo disclosure under IFRS 8				
parametric test	**YES**	NO	NO	NO
non-parametric test	**YES**	NO	NO	NO
Revenue attribution				
parametric test	NO	NO	NO	NO
non-parametric test	NO	NO	NO	NO

Appendix C. 17 Paired sample t-test for the proportion of revenue reported by country

N=178

Panel A

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Revenue % provided by country _ IAs14	43.3607	178	36.68643	2.74976
	Revenue % provided by country _ IFRS8	58.2133	178	32.21674	2.41475

Panel B

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	Revenue % provided by country _ IAs14 & Revenue % provided by country _ IFRS8	178	.691	.000

Panel C

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	Revenue % provided by country _ IAs14 - Revenue % provided by country _ IFRS8	-14.85258	27.39468	2.05332	-18.90472	-10.80045	-7.233	177	.000

N=155

Panel A

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Revenue % provided by country _ IAS14	44.4477	155	35.63045	2.86191
	Revenue % provided by country _ IFRS8	61.5195	155	28.81861	2.31477

Panel B

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	Revenue % provided by country _ IAS14 & Revenue % provided by country _ IFRS8	155	.655	.000

Panel C

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	Revenue % provided by country _ IAS14 - Revenue % provided by country _ IFRS8	-17.07181	27.48901	2.20797	-21.43363	-12.70999	-7.732	154	.000

Appendix C. 18 Paired sample t-test for the proportion of revenue reported by ROW

N=178

Panel A

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	ROWrevenueIAS14	6.2450	178	11.48632	.86094
	ROWrevenueIFRS8	11.3603	178	18.58184	1.39277

Panel B

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	ROWrevenueIAS14 & ROWrevenueIFRS8	178	.284	.000

Panel C

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	ROWrevenueIAS14 - ROWrevenueIFRS8	-5.11521	18.86650	1.41410	-7.90588	-2.32453	-3.617	177	.000

N=155

Panel A

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	ROWrevenueIAS14	6.2159	155	10.32604	.82941
	ROWrevenueIFRS8	11.9963	155	19.09104	1.53343

Panel B

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	ROWrevenueIAS14 & ROWrevenueIFRS8	155	.345	.000

Panel C

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	ROWrevenueIAS14 - ROWrevenueIFRS8	-5.78040	18.30908	1.47062	-8.68560	-2.87521	-3.931	154	.000

Appendix C. 19 The proportion of revenue reported by country / ROW by different categorical company characteristic (N=178)

N=178	Companies*		Revenue % by country				Revenue % by ROW			
Categories			IAS 14 R		IFRS 8		IAS 14 R		IFRS 8	
	Number	%	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
Industry										
Basic Materials	20	11.24	46.12	39.13	48.42	34.86	2.97	6.13	5.53	16.24
Consumer Services	36	20.22	57.15	35.05	66.39	29.14	8.51	16.30	11.58	17.37
Customer Goods	18	10.11	35.70	40.68	58.27	31.14	6.24	9.63	14.89	21.94
Health Care	7	3.93	53.45	27.57	59.01	32.99	9.43	10.55	15.11	20.21
Industrials	56	31.46	37.00	32.48	54.63	29.88	6.37	11.67	13.03	21.55
Oil and Gas	15	8.43	46.09	44.81	68.83	36.32	5.40	9.05	14.08	18.23
Technology	17	9.55	21.70	29.24	45.53	35.57	6.89	10.33	8.78	12.63
Telecommunication	4	2.25	52.82	35.66	55.52	38.31	1.83	3.33	5.48	7.27
Utilities	5	2.81	75.63	35.85	90.80	14.73	1.03	1.45	1.75	2.61
Total	**178**	**100.00**	**43.36**	**36.69**	**58.21**	**32.22**	**6.25**	**11.49**	**11.36**	**18.58**
Auditor										
Big4_A	57	32.02	41.04	36.58	57.49	31.86	8.03	14.31	12.84	18.88
Big4_B	47	26.40	43.35	36.14	54.91	32.93	5.60	9.67	11.19	17.28
Big4_C	42	23.60	36.07	32.57	54.27	31.60	5.22	10.63	12.68	22.72
Big4_D	29	16.29	58.91	40.91	69.42	32.77	4.08	7.56	5.58	10.93
Not Big4	3	1.69	39.53	40.32	70.61	18.55	17.77	17.01	23.23	25.55
Total	**178**	**100.00**	**43.36**	**36.69**	**58.21**	**32.22**	**6.25**	**11.49**	**11.36**	**18.58**
Single segment / Not										
Not single segment company	172	96.63	42.55	36.20	57.92	31.77	6.22	11.43	11.54	18.81
Single segment company	6	3.37	66.57	46.46	66.61	46.11	7.05	14.22	6.18	9.64
Total	**178**	**100.00**	**43.36**	**36.69**	**58.21**	**32.22**	**6.25**	**11.49**	**11.36**	**18.58**
FTSE 100										
FTSE 100	66	37.08	36.05	33.94	56.06	30.24	7.70	13.21	12.06	17.24
FTSE 250	112	62.92	47.67	37.70	59.48	33.39	5.39	10.31	10.94	19.39
Total	**178**	**100.00**	**43.36**	**36.69**	**58.21**	**32.22**	**6.25**	**11.49**	**11.36**	**18.58**
Listing status										
Cross listed	164	92.13	42.84	36.42	57.50	31.94	6.42	11.52	11.76	18.93
Not cross listed	14	7.87	49.46	40.65	66.53	35.51	4.24	11.32	6.67	13.46
Total	**178**	**9.96**	**43.36**	**36.69**	**58.21**	**32.22**	**6.25**	**11.49**	**11.36**	**18.58**
US listing status										
US listed	109	61.24	38.72	35.27	57.26	31.47	6.49	12.10	12.06	18.49
Not US listed	69	38.76	50.69	37.92	59.72	33.55	5.86	10.52	10.25	18.81
Total	**178**	**100.00**	**43.36**	**36.69**	**58.21**	**32.22**	**6.25**	**11.49**	**11.36**	**18.58**
Early adopter										
Early adopter	27	15.17	43.30	37.63	62.46	32.38	3.88	6.57	12.03	19.53
Not early adopter	151	8.45	43.37	36.64	57.45	32.24	6.67	12.13	11.24	18.47
Total	**178**	**100.00**	**43.36**	**36.69**	**58.21**	**32.22**	**6.25**	**11.49**	**11.36**	**18.58**
Type of reporting segment										
Business	98	55.06	39.81	37.68	57.78	32.13	7.08	12.75	11.39	17.29
Geo	37	20.79	47.80	37.14	58.73	33.73	4.45	10.69	6.08	13.71
Mixed	43	24.16	47.64	33.84	58.76	31.84	5.89	8.85	15.83	23.63
Total	**178**	**100.00**	**43.36**	**36.69**	**58.21**	**32.22**	**6.25**	**11.49**	**11.36**	**18.58**
Geo disclosure under IFRS8										
Both reporting segm. & EWI_diff.	36	20.22	33.16	28.72	58.19	28.32	4.93	8.82	15.19	24.53
Both reporting segm. & EWI_same	4	2.25	55.67	52.02	68.25	36.84	3.29	6.58	3.65	7.29
Entity wide information	98	55.06	39.81	37.68	57.78	32.13	7.08	12.75	11.39	17.29
Geo reporting segment	23	12.92	62.00	35.44	59.23	36.00	4.74	10.98	3.38	6.42
Mixed reporting segment	17	9.55	57.33	34.45	57.03	37.45	6.98	10.80	15.69	21.56
Total	**178**	**100.00**	**43.36**	**36.69**	**58.21**	**32.22**	**6.25**	**11.49**	**11.36**	**18.58**
Revenue attribution										
Customer location	82	46.07	41.02	36.74	57.56	31.32	6.89	12.47	8.77	12.88
Origin	44	24.72	47.25	34.94	61.04	33.65	6.71	11.88	11.10	18.60
Not mentioned	52	29.21	43.76	38.41	56.85	32.87	4.84	9.43	15.67	24.77
Total	**178**	**100.00**	**43.36**	**36.69**	**58.21**	**32.22**	**6.25**	**11.49**	**11.36**	**18.58**

*: IFRS8 first adoption

Appendix C. 20 The proportion of revenue reported by country / ROW by different categorical company characteristic (N=155)

N=155	Companies*		Revenue % by country				Revenue % by ROW			
Categories			IAS 14 R		IFRS 8		IAS 14 R		IFRS 8	
	Number	%	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
Industry										
Basic Materials	15	8.43	40.38	36.74	47.03	32.96	3.31	6.96	6.48	18.78
Consumer Services	34	19.10	58.48	34.60	68.58	27.57	6.50	9.93	12.05	17.77
Customer Goods	17	9.55	37.80	40.92	61.70	28.38	6.61	9.79	15.76	22.29
Health Care	6	3.37	58.75	25.99	68.85	22.22	10.54	11.11	17.37	21.15
Industrials	53	29.78	38.83	32.40	57.72	27.61	6.50	11.97	12.58	21.23
Oil and Gas	8	4.49	35.52	42.19	76.30	18.77	7.95	10.52	23.10	19.51
Technology	14	7.87	26.35	30.34	49.34	33.37	7.38	10.97	7.44	10.63
Telecommunication	3	1.69	70.43	6.84	74.00	12.11	0.16	0.28	5.36	8.90
Utilities	5	2.81	75.63	35.85	90.80	14.73	1.03	1.45	1.75	2.61
Total	**155**	**87.08**	**44.45**	**35.63**	**61.52**	**28.82**	**6.22**	**10.33**	**12.00**	**19.09**
Auditor										
Big4_A	50	28.09	46.01	36.22	65.10	25.90	6.92	10.36	12.03	18.42
Big4_B	40	22.47	43.66	34.67	58.06	29.24	6.33	10.27	12.87	18.22
Big4_C	38	21.35	37.24	30.96	55.16	29.44	5.63	11.09	13.70	23.67
Big4_D	24	13.48	54.55	42.22	68.76	32.81	4.04	7.72	6.37	11.87
Not Big4	3	1.69	39.53	40.32	70.61	18.54	17.77	17.01	23.23	25.55
Total	**155**	**87.08**	**44.45**	**35.63**	**61.52**	**28.82**	**6.22**	**10.33**	**12.00**	**19.09**
Single segment / Not										
Not single segment company	149	83.71	43.56	35.03	61.31	28.13	6.18	10.20	12.23	19.36
Single segment company	6	3.37	66.57	46.46	66.61	46.11	7.05	14.22	6.18	9.64
Total	**155**	**87.08**	**44.45**	**35.63**	**61.52**	**28.82**	**6.22**	**10.33**	**12.00**	**19.09**
FTSE 100										
FTSE 100	98	55.06	48.49	36.23	61.47	30.49	6.78	9.43	12.18	17.17
FTSE 250	57	32.02	37.49	33.76	61.61	25.96	5.89	10.84	11.89	20.21
Total	**155**	**87.08**	**44.45**	**35.63**	**61.52**	**28.82**	**6.22**	**10.33**	**12.00**	**19.09**
Listing status										
Cross listed	142	79.78	43.64	35.29	60.59	28.54	6.37	10.22	12.44	19.48
Not cross listed	13	7.30	53.26	39.63	71.65	31.13	4.57	11.71	7.18	13.87
Total	**155**	**87.08**	**44.45**	**35.63**	**61.52**	**28.82**	**6.22**	**10.33**	**12.00**	**19.09**
US listing status										
US listed	93	52.25	39.49	33.78	60.34	27.19	6.12	9.94	12.58	18.79
Not US listed	62	34.83	51.89	37.29	63.29	31.24	6.36	10.96	11.12	19.65
Total	**155**	**87.08**	**44.45**	**35.63**	**61.52**	**28.82**	**6.22**	**10.33**	**12.00**	**19.09**
Early adopter										
Early adopter	23	12.92	45.23	38.43	68.02	26.71	3.43	6.45	12.60	20.69
Not early adopter	132	74.16	44.31	35.27	60.39	29.12	6.70	10.81	11.89	18.88
Total	**155**	**87.08**	**44.45**	**35.63**	**61.52**	**28.82**	**6.22**	**10.33**	**12.00**	**19.09**
Type of reporting segment										
Business	87	48.88	42.22	37.58	61.96	29.25	6.58	10.38	12.17	18.04
Geo	29	16.29	44.81	33.39	59.16	29.21	5.67	11.83	7.59	15.18
Mixed	39	21.91	49.14	33.07	62.29	28.20	5.80	9.19	14.88	23.40
Total	**155**	**87.08**	**44.45**	**35.63**	**61.52**	**28.82**	**6.22**	**10.33**	**12.00**	**19.09**
Geo disclosure under IFRS8										
Both reporting segm. & EWI_diff.	36	23.23	33.16	28.72	58.19	28.32	4.93	8.82	15.19	24.53
Both reporting segm. & EWI_same	4	2.58	55.67	52.02	68.25	36.84	3.29	6.58	3.65	7.29
Entity wide information	87	56.13	42.22	37.58	61.96	29.25	6.58	10.38	12.17	18.04
Geo reporting segment	15	9.68	63.80	27.05	60.34	28.55	7.24	13.05	4.86	7.56
Mixed reporting segment	13	8.39	64.82	29.32	67.07	28.49	7.04	12.22	12.79	19.80
Total	**155**	**100.00**	**44.45**	**35.63**	**61.52**	**28.82**	**6.22**	**10.33**	**12.00**	**19.09**
Revenue attribution										
Customer location	76	49.03	42.16	36.39	59.72	30.15	6.22	9.15	9.17	13.28
Origin	35	22.58	47.60	31.49	64.58	27.74	7.38	12.86	12.52	19.67
Not mentioned	44	28.39	45.89	37.87	62.20	27.69	5.28	10.14	16.45	25.63
Total	**155**	**100.00**	**44.45**	**35.63**	**61.52**	**28.82**	**6.22**	**10.33**	**12.00**	**19.09**

*: IFRS8 first adoption

Appendix C. 21 Change in fineness scores

	Fineness								
	Country weight = 3			Country weight = 4			Country weight = 8		
	IAS 14 R	IAS 14 R restated	Change	IAS 14 R	IAS 14 R restated	Change	IAS 14 R	IAS 14 R restated	Change
	Statistics								
N=178									
Mean	2.16	2.28	0.12	2.59	2.87	0.28	4.33	5.22	0.89
Standard Deviation	0.62	0.61	-0.01	0.96	0.90	-0.06	2.40	2.15	-0.25
	Change in fineness (number & % of companies)								
Increase			70 39.33%			74 41.57%			81 45.51%
Decrease			32 17.98%			28 15.73%			21 11.80%
No change			76 42.70%			76 42.70%			76 42.70%
Total			**178 100.00%**			**178 100.00%**			**178 100.00%**
N=155									
Mean	2.17	2.31	0.14	2.61	2.93	0.32	4.39	5.41	1.02
Standard Deviation	0.60	0.59	-0.01	0.94	0.85	-0.09	2.34	1.96	-0.38
	Change in fineness (number & % of companies)								
Increase			66 42.58%			70 45.16%			77 49.68%
Decrease			27 17.42%			23 14.84%			16 10.32%
No change			62 40.00%			62 40.00%			62 40.00%
Total			**155 100.00%**			**155 100.00%**			**155 100.00%**

Appendix C. 22 Paired sample t-test for fineness scores

N=178

Panel A

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Fineness score _ IAS14 _ 3	2.1574345	178	.62082690	.04653294
	Fineness score _ IAS14_3_restated	2.2832199	178	.61110737	.04580443
Pair 2	Fineness score _ IAS14_4	2.591040	178	.9621993	.0721199
	Fineness score _ IAS14_4_restated	2.870068	178	.8987523	.0673643
Pair 3	Fineness score _ IAS14_8	4.325460	178	2.4040004	.1801874
	Fineness score _ IAS14_8_restated	5.217459	178	2.1510939	.1612313

Panel B

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	Fineness score _ IAS14 _ 3 & Fineness score _ IAS14_3_restated	178	.700	.000
Pair 2	Fineness score _ IAS14_4 & Fineness score _ IAS14_4_restated	178	.723	.000
Pair 3	Fineness score _ IAS14_8 & Fineness score _ IAS14_8_restated	178	.716	.000

Panel C

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	Fineness score _ IAS14 _ 3 - Fineness score _ IAS14_3_restated	-.12578545	.47709866	.03576006	-.19635639	-.05521451	-3.517	177	.001
Pair 2	Fineness score _ IAS14_4 - Fineness score _ IAS14_4_restated	-.2790281	.6951414	.0521030	-.3818512	-.1762049	-5.355	177	.000
Pair 3	Fineness score _ IAS14_8 - Fineness score _ IAS14_8_restated	-.8919985	1.7316776	.1297947	-1.1481429	-.6358542	-6.872	177	.000

N=155

Panel A

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Fineness score _ IAS14 _ 3	2.1694778	155	.60306031	.04843897
	Fineness score _ IAS14_3_restated	2.3104485	155	.59299864	.04763080
Pair 2	Fineness score _ IAS14_4	2.613953	155	.9365098	.0752223
	Fineness score _ IAS14_4_restated	2.930714	155	.8478792	.0681033
Pair 3	Fineness score _ IAS14_8	4.391853	155	2.3387161	.1878502
	Fineness score _ IAS14_8_restated	5.411776	155	1.9605655	.1574764

Panel B

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	Fineness score _ IAS14 _ 3 & Fineness score _ IAS14_3_restated	155	.684	.000
Pair 2	Fineness score _ IAS14_4 & Fineness score _ IAS14_4_restated	155	.700	.000
Pair 3	Fineness score _ IAS14_8 & Fineness score _ IAS14_8_restated	155	.688	.000

Panel C

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	Fineness score _ IAS14 _ 3 - Fineness score _ IAS14_3_restated	-.14097071	.47545054	.03818911	-.21641284	-.06552859	-3.691	154	.000
Pair 2	Fineness score _ IAS14_4 - Fineness score _ IAS14_4_restated	-.3167611	.6959505	.0559001	-.4271910	-.2063311	-5.667	154	.000
Pair 3	Fineness score _ IAS14_8 - Fineness score _ IAS14_8_restated	-1.0199225	1.7319723	.1391154	-1.2947432	-.7451017	-7.331	154	.000

Appendix C. 23 Fineness scores by different categorical company characteristics (N=178)

N=178	Companies*		Country weight = 3						Country weight = 4						Country weight = 8					
Categories			**IAS 14R**		**IFRS 8**		**Restated IAS14R**		**IAS 14R**		**IFRS 8**		**Restated IAS14R**		**IAS 14R**		**IFRS 8**		**Restated IAS14R**	
	Number	**%**	**Mean**	**Std. Dev.**	**Mean**	**Std. Dev.**	**Mean**	**Std. Dev.**	**Mean**	**Std. Dev.**	**Mean**	**Std. Dev.**	**Mean**	**Std. Dev.**	**Mean**	**Std. Dev.**	**Mean**	**Std. Dev.**	**Mean**	**Std. Dev.**
Industry																				
Basic Materials	20	11.24	2.30	0.58	2.24	0.67	2.21	0.68	2.76	0.96	2.72	0.98	2.68	0.99	4.60	2.51	4.66	2.34	4.55	2.33
Consumer Services	36	20.22	2.29	0.69	2.40	0.55	2.42	0.55	2.86	1.02	3.07	0.81	3.09	0.81	5.15	2.40	5.72	1.94	5.78	1.94
Customer Goods	18	10.11	2.01	0.67	2.20	0.64	2.21	0.64	2.36	1.06	2.78	0.91	2.80	0.91	3.79	2.67	5.11	2.11	5.15	2.10
Health Care	7	3.93	2.24	0.54	2.23	0.58	2.25	0.54	2.78	0.78	2.82	0.85	2.85	0.81	4.91	1.86	5.18	2.11	5.24	2.06
Industrials	56	31.46	2.09	0.55	2.19	0.63	2.20	0.64	2.46	0.84	2.74	0.88	2.75	0.90	3.94	2.11	4.92	2.03	4.95	2.05
Oil and Gas	15	8.43	2.14	0.69	2.35	0.65	2.42	0.60	2.60	1.12	3.04	0.99	3.13	0.94	4.45	2.89	5.79	2.41	5.97	2.35
Technology	17	9.55	1.86	0.62	2.10	0.68	2.13	0.63	2.08	0.87	2.55	1.01	2.59	0.95	2.94	2.00	4.37	2.41	4.44	2.32
Telecommunication	4	2.25	2.36	0.47	2.30	0.41	2.33	0.44	2.88	0.82	2.85	0.79	2.90	0.83	5.00	2.24	5.07	2.32	5.19	2.40
Utilities	5	2.81	2.74	0.35	2.87	0.14	2.88	0.14	3.49	0.71	3.78	0.29	3.80	0.27	6.52	2.14	7.41	0.87	7.46	0.82
Total	**178**	**100.00**	**2.16**	**0.62**	**2.27**	**0.62**	**2.28**	**0.61**	**2.59**	**0.96**	**2.85**	**0.90**	**2.87**	**0.90**	**4.33**	**2.40**	**5.18**	**2.15**	**5.22**	**2.15**
Auditor																				
Big4_A	57	32.02	2.09	0.65	2.23	0.64	2.26	0.62	2.50	1.00	2.81	0.93	2.84	0.90	4.14	2.43	5.11	2.17	5.15	2.14
Big4_B	47	26.40	2.19	0.60	2.26	0.58	2.29	0.58	2.63	0.94	2.80	0.87	2.85	0.88	4.36	2.35	5.00	2.15	5.09	2.17
Big4_C	42	23.60	2.11	0.53	2.18	0.66	2.18	0.67	2.47	0.82	2.72	0.93	2.72	0.95	3.91	2.10	4.89	2.14	4.90	2.15
Big4_D	29	16.29	2.35	0.68	2.49	0.53	2.49	0.53	2.94	1.08	3.18	0.84	3.18	0.84	5.29	2.70	5.96	2.13	5.96	2.13
Not Big4	3	1.69	1.71	0.71	2.24	0.69	2.21	0.71	2.10	1.11	2.95	0.87	2.90	0.90	3.68	2.72	5.77	1.60	5.68	1.65
Total	**178**	**100.00**	**2.16**	**0.62**	**2.27**	**0.62**	**2.28**	**0.61**	**2.59**	**0.96**	**2.85**	**0.90**	**2.87**	**0.90**	**4.33**	**2.40**	**5.18**	**2.15**	**5.22**	**2.15**
Single segment / Not																				
Not single segment company	172	96.63	2.15	0.61	2.26	0.61	2.28	0.60	2.57	0.95	2.84	0.89	2.86	0.89	4.28	2.37	5.16	2.12	5.20	2.12
Single segment company	6	3.37	2.39	0.95	2.40	0.88	2.40	0.85	3.05	1.40	3.06	1.33	3.09	1.28	5.72	3.24	5.73	3.16	5.82	2.99
Total	**178**	**100.00**	**2.16**	**0.62**	**2.27**	**0.62**	**2.28**	**0.61**	**2.59**	**0.96**	**2.85**	**0.90**	**2.87**	**0.90**	**4.33**	**2.40**	**5.18**	**2.15**	**5.22**	**2.15**
FTSE 100																				
FTSE 100	66	37.08	2.02	0.61	2.23	0.57	2.24	0.54	2.39	0.92	2.79	0.83	2.80	0.81	3.83	2.25	5.03	2.00	5.05	1.96
FTSE 250	112	62.92	2.24	0.61	2.29	0.64	2.31	0.65	2.71	0.97	2.88	0.94	2.91	0.95	4.62	2.45	5.26	2.24	5.31	2.26
Total	**178**	**100.00**	**2.16**	**0.62**	**2.27**	**0.62**	**2.28**	**0.61**	**2.59**	**0.96**	**2.85**	**0.90**	**2.87**	**0.90**	**4.33**	**2.40**	**5.18**	**2.15**	**5.22**	**2.15**
Listing status																				
Cross listed	164	92.13	2.14	0.62	2.25	0.62	2.26	0.61	2.57	0.96	2.82	0.90	2.84	0.90	4.29	2.39	5.12	2.14	5.17	2.14
Not cross listed	14	7.87	2.31	0.65	2.52	0.52	2.52	0.53	2.80	1.03	3.18	0.85	3.18	0.87	4.78	2.63	5.84	2.25	5.83	2.28
Total	**178**	**100.00**	**2.16**	**0.62**	**2.27**	**0.62**	**2.28**	**0.61**	**2.59**	**0.96**	**2.85**	**0.90**	**2.87**	**0.90**	**4.33**	**2.40**	**5.18**	**2.15**	**5.22**	**2.15**
US listing status																				
US listed	109	61.24	2.09	0.61	2.24	0.62	2.26	0.60	2.48	0.94	2.81	0.90	2.84	0.88	4.03	2.32	5.10	2.12	5.15	2.10
Not US listed	69	38.76	2.26	0.63	2.32	0.62	2.32	0.63	2.77	0.98	2.91	0.91	2.92	0.93	4.79	2.48	5.30	2.21	5.32	2.25
Total	**178**	**100.00**	**2.16**	**0.62**	**2.27**	**0.62**	**2.28**	**0.61**	**2.59**	**0.96**	**2.85**	**0.90**	**2.87**	**0.90**	**4.33**	**2.40**	**5.18**	**2.15**	**5.22**	**2.15**
Early adopter																				
Early adopter	27	15.17	2.20	0.62	2.32	0.62	2.35	0.60	2.63	0.97	2.95	0.90	2.99	0.88	4.37	2.46	5.45	2.16	5.54	2.12
Not early adopter	151	84.83	2.15	0.62	2.26	0.62	2.27	0.61	2.58	0.96	2.83	0.90	2.85	0.90	4.32	2.40	5.13	2.15	5.16	2.16
Total	**178**	**100.00**	**2.16**	**0.62**	**2.27**	**0.62**	**2.28**	**0.61**	**2.59**	**0.96**	**2.85**	**0.90**	**2.87**	**0.90**	**4.33**	**2.40**	**5.18**	**2.15**	**5.22**	**2.15**
Type of reporting segment																				
Business	98	55.06	2.08	0.65	2.26	0.58	2.26	0.59	2.48	1.00	2.84	0.87	2.84	0.87	4.07	2.48	5.15	2.11	5.15	2.11
Geo	37	20.79	2.23	0.62	2.34	0.58	2.38	0.58	2.71	0.96	2.93	0.89	2.99	0.89	4.62	2.42	5.27	2.21	5.41	2.23
Mixed	43	24.16	2.27	0.53	2.23	0.72	2.25	0.69	2.75	0.85	2.81	1.00	2.84	0.97	4.65	2.19	5.16	2.23	5.21	2.21
Total	**178**	**100.00**	**2.16**	**0.62**	**2.27**	**0.62**	**2.28**	**0.61**	**2.59**	**0.96**	**2.85**	**0.90**	**2.87**	**0.90**	**4.33**	**2.40**	**5.18**	**2.15**	**5.22**	**2.15**
Geo disclosure under IFRS 8																				
Both reporting segm. & EWI _ diff	36	20.22	2.04	0.57	2.17	0.71	2.20	0.70	2.37	0.84	2.75	0.96	2.79	0.96	3.70	1.96	5.08	2.06	5.15	2.08
Both reporting segm. & EWI _ same	4	2.25	2.45	0.66	2.56	0.49	2.59	0.48	3.00	1.18	3.25	0.85	3.28	0.85	5.23	3.26	5.98	2.31	6.07	2.35
Entity wide information	98	55.06	2.08	0.65	2.26	0.58	2.26	0.59	2.48	1.00	2.84	0.87	2.84	0.87	4.07	2.48	5.15	2.11	5.15	2.11
Geo reporting segment	23	12.92	2.44	0.51	2.44	0.49	2.47	0.49	3.06	0.84	3.03	0.83	3.08	0.83	5.54	2.23	5.40	2.26	5.52	2.24
Mixed reporting segment	17	9.55	2.40	0.51	2.23	0.76	2.27	0.69	2.97	0.84	2.80	1.10	2.84	1.04	5.26	2.20	5.08	2.56	5.14	2.53
Total	**178**	**100.00**	**2.16**	**0.62**	**2.27**	**0.62**	**2.28**	**0.61**	**2.59**	**0.96**	**2.85**	**0.90**	**2.87**	**0.90**	**4.33**	**2.40**	**5.18**	**2.15**	**5.22**	**2.15**
Revenue attribution																				
Customer location	82	46.07	2.14	0.62	2.30	0.53	2.31	0.52	2.55	0.96	2.87	0.82	2.89	0.81	4.19	2.40	5.17	2.04	5.19	2.03
Origin	44	24.72	2.20	0.61	2.31	0.62	2.34	0.60	2.67	0.93	2.92	0.92	2.95	0.90	4.56	2.30	5.36	2.23	5.42	2.20
Not mentioned	52	29.21	2.16	0.64	2.19	0.73	2.20	0.74	2.59	1.00	2.76	1.02	2.78	1.03	4.35	2.52	5.03	2.28	5.08	2.31
Total	**178**	**100.00**	**2.16**	**0.62**	**2.27**	**0.62**	**2.28**	**0.61**	**2.59**	**0.96**	**2.85**	**0.90**	**2.87**	**0.90**	**4.33**	**2.40**	**5.18**	**2.15**	**5.22**	**2.15**

*: IFRS8 first adoption

Appendix C. 24 Fineness scores by different categorical characteristics (N=155)

N=155	Companies*		Country weight = 3						Country weight = 4						Country weight = 8					
Categories			IAS 14R		IFRS 8		Restated IAS14R		IAS 14R		IFRS 8		Restated IAS14R		IAS 14R		IFRS 8		Restated IAS14R	
	Number	%	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
Industry																				
Basic Materials	15	9.68	2.26	0.49	2.22	0.65	2.20	0.65	2.66	0.86	2.69	0.94	2.65	0.93	4.28	2.32	4.57	2.21	4.46	2.17
Consumer Services	34	21.94	2.34	0.62	2.42	0.56	2.43	0.55	2.92	0.95	3.10	0.81	3.12	0.80	5.26	2.32	5.85	1.88	5.88	1.87
Customer Goods	17	10.97	2.01	0.69	2.21	0.66	2.22	0.66	2.38	1.09	2.83	0.92	2.85	0.91	3.90	2.72	5.29	2.02	5.33	2.01
Health Care	6	3.87	2.25	0.59	2.27	0.62	2.29	0.58	2.84	0.84	2.96	0.84	2.99	0.78	5.19	1.87	5.71	1.71	5.78	1.62
Industrials	53	34.19	2.12	0.54	2.25	0.59	2.26	0.61	2.50	0.84	2.83	0.82	2.84	0.84	4.06	2.10	5.14	1.87	5.16	1.90
Oil and Gas	8	5.16	1.92	0.68	2.30	0.58	2.41	0.50	2.28	1.08	3.06	0.76	3.21	0.67	3.70	2.75	6.12	1.52	6.42	1.32
Technology	14	9.03	1.88	0.67	2.14	0.65	2.15	0.64	2.14	0.94	2.64	0.97	2.65	0.94	3.20	2.12	4.61	2.28	4.66	2.20
Telecommunication	3	1.94	2.59	0.08	2.50	0.06	2.55	0.03	3.29	0.10	3.24	0.18	3.31	0.13	6.11	0.35	6.20	0.67	6.37	0.53
Utilities	5	3.23	2.74	0.35	2.87	0.14	2.88	0.14	3.49	0.71	3.78	0.29	3.80	0.27	6.52	2.14	7.41	0.87	7.46	0.82
Total	**155**	**100.00**	**2.17**	**0.60**	**2.30**	**0.59**	**2.31**	**0.59**	**2.61**	**0.94**	**2.91**	**0.85**	**2.93**	**0.85**	**4.39**	**2.34**	**5.37**	**1.96**	**5.41**	**1.96**
Auditor																				
Big4_A	50	32.26	2.19	0.60	2.36	0.56	2.38	0.54	2.65	0.94	3.01	0.79	3.03	0.77	4.49	2.38	5.61	1.79	5.65	1.77
Big4_B	40	25.81	2.18	0.60	2.27	0.58	2.30	0.57	2.62	0.92	2.85	0.83	2.89	0.83	4.36	2.28	5.17	1.96	5.26	1.98
Big4_C	38	24.52	2.10	0.53	2.16	0.66	2.16	0.68	2.48	0.81	2.71	0.92	2.71	0.94	3.97	2.02	4.92	2.05	4.92	2.06
Big4_D	24	15.48	2.27	0.72	2.45	0.56	2.45	0.55	2.82	1.13	3.13	0.86	3.14	0.85	5.00	2.80	5.88	2.15	5.91	2.13
Not Big4	3	1.94	1.71	0.71	2.24	0.69	2.21	0.71	2.10	1.11	2.95	0.87	2.90	0.90	3.68	2.72	5.77	1.60	5.68	1.65
Total	**155**	**100.00**	**2.17**	**0.60**	**2.30**	**0.59**	**2.31**	**0.59**	**2.61**	**0.94**	**2.91**	**0.85**	**2.93**	**0.85**	**4.39**	**2.34**	**5.37**	**1.96**	**5.41**	**1.96**
Single segment / Not																				
Not single segment company	149	96.13	2.16	0.59	2.29	0.58	2.31	0.58	2.60	0.92	2.91	0.83	2.92	0.83	4.34	2.29	5.36	1.91	5.40	1.92
Single segment company	6	3.87	2.39	0.95	2.40	0.88	2.40	0.85	3.05	1.40	3.06	1.33	3.09	1.28	5.72	3.24	5.73	3.16	5.82	2.99
Total	**155**	**100.00**	**2.17**	**0.60**	**2.30**	**0.59**	**2.31**	**0.59**	**2.61**	**0.94**	**2.91**	**0.85**	**2.93**	**0.85**	**4.39**	**2.34**	**5.37**	**1.96**	**5.41**	**1.96**
FTSE 100																				
FTSE 100	57	36.77	2.06	0.59	2.29	0.52	2.31	0.50	2.43	0.90	2.91	0.75	2.93	0.72	3.93	2.23	5.37	1.75	5.40	1.70
FTSE 250	98	63.23	2.24	0.61	2.30	0.63	2.31	0.64	2.72	0.95	2.92	0.90	2.93	0.92	4.66	2.37	5.37	2.08	5.42	2.11
Total	**155**	**100.00**	**2.17**	**0.60**	**2.30**	**0.59**	**2.31**	**0.59**	**2.61**	**0.94**	**2.91**	**0.85**	**2.93**	**0.85**	**4.39**	**2.34**	**5.37**	**1.96**	**5.41**	**1.96**
Listing status																				
Cross listed	142	91.61	2.15	0.60	2.27	0.59	2.29	0.60	2.59	0.93	2.88	0.84	2.90	0.85	4.34	2.31	5.30	1.94	5.35	1.94
Not cross listed	13	8.39	2.33	0.67	2.56	0.52	2.55	0.53	2.87	1.04	3.27	0.81	3.27	0.83	5.00	2.61	6.14	2.04	6.12	2.08
Total	**155**	**100.00**	**2.17**	**0.60**	**2.30**	**0.59**	**2.31**	**0.59**	**2.61**	**0.94**	**2.91**	**0.85**	**2.93**	**0.85**	**4.39**	**2.34**	**5.37**	**1.96**	**5.41**	**1.96**
US listing status																				
US listed	93	60.00	2.11	0.58	2.27	0.57	2.29	0.56	2.50	0.89	2.87	0.81	2.90	0.80	4.08	2.22	5.29	1.86	5.34	1.85
Not US listed	62	40.00	2.26	0.63	2.34	0.62	2.34	0.64	2.78	0.98	2.97	0.90	2.98	0.92	4.86	2.45	5.51	2.11	5.52	2.13
Total	**155**	**100.00**	**2.17**	**0.60**	**2.30**	**0.59**	**2.31**	**0.59**	**2.61**	**0.94**	**2.91**	**0.85**	**2.93**	**0.85**	**4.39**	**2.34**	**5.37**	**1.96**	**5.41**	**1.96**
Early adopter																				
Early adopter	23	14.84	2.23	0.65	2.37	0.61	2.40	0.59	2.68	1.02	3.05	0.85	3.09	0.82	4.49	2.53	5.77	1.88	5.87	1.83
Not early adopter	132	85.16	2.16	0.60	2.28	0.59	2.29	0.59	2.60	0.93	2.89	0.85	2.90	0.85	4.37	2.31	5.30	1.97	5.33	1.98
Total	**155**	**100.00**	**2.17**	**0.60**	**2.30**	**0.59**	**2.31**	**0.59**	**2.61**	**0.94**	**2.91**	**0.85**	**2.93**	**0.85**	**4.39**	**2.34**	**5.37**	**1.96**	**5.41**	**1.96**
Type of reporting segment																				
Business	87	56.13	2.12	0.63	2.30	0.60	2.30	0.58	2.54	0.99	2.92	0.83	2.92	0.83	4.23	2.47	5.40	1.96	5.40	1.95
Geo	29	18.71	2.16	0.60	2.30	0.56	2.35	0.57	2.61	0.90	2.90	0.83	2.96	0.84	4.40	2.21	5.26	1.97	5.41	2.00
Mixed	39	25.16	2.29	0.53	2.28	0.67	2.30	0.66	2.78	0.84	2.91	0.92	2.93	0.91	4.75	2.15	5.40	2.01	5.44	2.00
Total	**155**	**100.00**	**2.17**	**0.60**	**2.30**	**0.59**	**2.31**	**0.59**	**2.61**	**0.94**	**2.91**	**0.85**	**2.93**	**0.85**	**4.39**	**2.34**	**5.37**	**1.96**	**5.41**	**1.96**
Geo disclosure under IFRS 8																				
Both reporting segm. & EWI _ diff	36	23.23	2.04	0.57	2.17	0.71	2.20	0.70	2.37	0.84	2.75	0.96	2.79	0.96	3.70	1.96	5.08	2.06	5.15	2.08
Both reporting segm. & EWI _ same	4	2.58	2.45	0.66	2.56	0.49	2.59	0.48	3.00	1.18	3.25	0.85	3.28	0.85	5.23	3.26	5.98	2.31	6.07	2.35
Entity wide information	87	56.13	2.12	0.63	2.30	0.57	2.30	0.58	2.54	0.99	2.92	0.83	2.92	0.83	4.23	2.47	5.40	1.96	5.40	1.95
Geo reporting segment	15	9.68	2.41	0.45	2.42	0.40	2.45	0.40	3.05	0.69	3.02	0.67	3.08	0.66	5.06	1.75	5.44	1.80	5.57	1.76
Mixed reporting segment	13	8.39	2.49	0.46	2.40	0.60	2.42	0.59	3.14	0.73	3.07	0.86	3.09	0.85	5.73	1.88	5.76	1.96	5.80	1.97
Total	**155**	**100.00**	**2.17**	**0.60**	**2.30**	**0.59**	**2.31**	**0.59**	**2.61**	**0.94**	**2.91**	**0.85**	**2.93**	**0.85**	**4.39**	**2.34**	**5.37**	**1.96**	**5.41**	**1.96**
Revenue attribution																				
Customer location	76	49.03	2.16	0.58	2.32	0.53	2.33	0.52	2.58	0.93	2.91	0.80	2.93	0.79	4.27	2.36	5.30	1.98	5.32	1.96
Origin	35	22.58	2.17	0.61	2.31	0.60	2.33	0.59	2.65	0.91	2.96	0.85	2.98	0.84	4.55	2.14	5.54	1.92	5.59	1.91
Not mentioned	44	28.39	2.18	0.64	2.26	0.70	2.26	0.72	2.64	1.00	2.88	0.93	2.90	0.97	4.47	2.49	5.37	1.99	5.42	2.04
Total	**155**	**100.00**	**2.17**	**0.60**	**2.30**	**0.59**	**2.31**	**0.59**	**2.61**	**0.94**	**2.91**	**0.85**	**2.93**	**0.85**	**4.39**	**2.34**	**5.37**	**1.96**	**5.41**	**1.96**

*: IFRS8 first adoption

Appendix C. 25 The effect of different company characteristics on fineness scores

Panel A

N=178	Significant effect on fineness score								
	Country weight = 3			Country weight = 4			Country weight = 8		
Categorical variables / Test	**IAS 14R**	**IFRS 8**	**IAS 14R restated**	**IAS 14R**	**IFRS 8**	**IAS 14R restated**	**IAS 14R**	**IFRS 8**	**IAS 14R restated**
Identity of the auditor									
parametric test	NO	NO	NO	NO	NO	NO	NO	NO	NO
non-parametric test	NO	NO	NO	NO	NO	NO	NO	NO	NO
Industry type									
parametric test	NO	NO	NO	**YES**	NO	NO	**YES**	NO	NO
non-parametric test	NO	NO	NO	**YES**	NO	NO	**YES**	NO	**YES**
Early adoption									
parametric test	NO	NO	NO	NO	NO	NO	NO	NO	NO
non-parametric test	NO	NO	NO	NO	NO	NO	NO	NO	NO
Cross listing									
parametric test	NO	NO	NO	NO	NO	NO	NO	NO	NO
non-parametric test	NO	NO	NO	NO	NO	NO	NO	NO	NO
US listing									
parametric test	NO	NO	NO	NO	NO	NO	**YES**	NO	NO
non-parametric test	NO	NO	NO	**YES**	NO	NO	**YES**	NO	NO
Type of reportable segment									
parametric test	NO	NO	NO	NO	NO	NO	NO	NO	NO
non-parametric test	NO	NO	NO	NO	NO	NO	NO	NO	NO
FTSE 100 / 250									
parametric test	**YES**	NO	NO	**YES**	NO	NO	**YES**	NO	NO
non-parametric test	**YES**	NO	NO	**YES**	NO	NO	**YES**	NO	NO
Single segment									
parametric test	NO	NO	NO	NO	NO	NO	NO	NO	NO
non-parametric test	NO	NO	NO	NO	NO	NO	NO	NO	NO

Panel B

N=155	Significant effect on fineness score								
	Country weight = 3			Country weight = 4			Country weight = 8		
Categorical variables / Test	**IAS 14R**	**IFRS 8**	**IAS 14R restated**	**IAS 14R**	**IFRS 8**	**IAS 14R restated**	**IAS 14R**	**IFRS 8**	**IAS 14R restated**
Identity of the auditor									
parametric test	NO	NO	NO	NO	NO	NO	NO	NO	NO
non-parametric test	NO	NO	NO	NO	NO	NO	NO	NO	NO
Industry type									
parametric test	NO	NO	NO	**YES**	NO	NO	**YES**	NO	**YES**
non-parametric test	NO	NO	NO	**YES**	NO	NO	**YES**	NO	**YES**
Early adoption									
parametric test	NO	NO	NO	NO	NO	NO	NO	NO	NO
non-parametric test	NO	NO	NO	NO	NO	NO	NO	NO	NO
Cross listing									
parametric test	NO	NO	NO	NO	NO	NO	NO	NO	NO
non-parametric test	NO	NO	NO	NO	NO	NO	NO	NO	NO
US listing									
parametric test	NO	NO	NO	NO	NO	NO	**YES**	NO	NO
non-parametric test	NO	NO	NO	NO	NO	NO	**YES**	NO	NO
Type of reportable segment									
parametric test	NO	NO	NO	NO	NO	NO	NO	NO	NO
non-parametric test	NO	NO	NO	NO	NO	NO	NO	NO	NO
FTSE 100 / 250									
parametric test	NO	NO	NO	NO	NO	NO	NO	NO	NO
non-parametric test	NO	NO	NO	NO	NO	NO	NO	NO	NO
Single segment									
parametric test	NO	NO	NO	NO	NO	NO	NO	NO	NO
non-parametric test	NO	NO	NO	NO	NO	NO	NO	NO	NO

Appendix C. 26 Number of items disclosed by country under IFRS 8 by different categorical company characteristics

N=155	Companies		Number of items by country	
Categories	**Number**	**%**	**Mean**	**Std. Dev.**
Industry				
Basic Materials	15	9.68	2.40	0.74
Consumer Services	34	21.94	5.32	3.69
Customer Goods	17	10.97	3.35	2.50
Health Care	6	3.87	3.83	3.31
Industrials	53	34.19	3.42	2.48
Oil and Gas	8	5.16	3.50	2.39
Technology	14	9.03	3.93	2.87
Telecommunication	3	1.94	4.00	3.46
Utilities	5	3.23	2.40	1.52
Total	**155**	**100.00**	**3.77**	**2.84**
Significant* effect on dependent variable				
parametric test		**YES**		
non parametric test		NO		
Auditor				
Big4_A	50	32.26	4.34	3.17
Big4_B	40	25.81	3.93	2.89
Big4_C	38	24.52	3.13	2.34
Big4_D	24	15.48	3.54	2.83
Not Big4	3	1.94	2.33	0.58
Total	**155**	**100.00**	**3.77**	**2.84**
Significant effect on dependent variable				
parametric test		NO		
non parametric test		NO		
Single segment / Not				
Not single segment company	149	96.13	3.78	2.84
Single segment company	6	3.87	3.67	3.14
Total	**155**	**100.00**	**3.77**	**2.84**
Significant effect on dependent variable				
parametric test		NO		
non parametric test		NO		
FTSE 100				
FTSE 100	57	36.77	3.84	2.93
FTSE 250	98	63.23	3.73	2.81
Total	**155**	**100.00**	**3.77**	**2.84**
Significant effect on dependent variable				
parametric test		NO		
non parametric test		NO		
Listing status				
Cross listed	142	91.61	3.71	2.82
Not cross listed	13	8.39	4.46	3.15
Total	**155**	**100.00**	**3.77**	**2.84**
Significant effect on dependent variable				
parametric test		NO		
non parametric test		NO		
US listing status				
US listed	93	60.00	3.60	2.79
Not US listed	62	40.00	4.03	2.93
Total	**155**	**100.00**	**3.77**	**2.84**
Significant effect on dependent variable				
parametric test		NO		
non parametric test		NO		
Early adopter				
Early adopter	23	14.84	4.83	3.71
Not early adopter	132	85.16	3.59	2.64
Total	**155**	**100.00**	**3.77**	**2.84**
Significant effect on dependent variable				
parametric test		NO		
non parametric test		NO		
Type of reporting segment				
Business	87	56.13	2.56	1.40
Geo	29	18.71	6.17	3.37
Mixed	39	25.16	4.69	3.36
Total	**155**	**100.00**	**3.77**	**2.84**
Significant effect on dependent variable				
parametric test		**YES**		
non parametric test		**YES**		
Geo revenue disclosure under IFRS 8				
Both reporting segment & EWI _ diff	36	23.23	3.36	2.94
Both reporting segment & EWI _ same	4	2.58	7.00	1.41
Entity wide information	87	56.13	2.56	1.40
Geo reporting segment	15	9.68	7.80	2.15
Mixed reporting segment	13	8.39	7.38	3.07
Total	**155**	**100.00**	**3.77**	**2.84**
Significant effect on dependent variable				
parametric test		**YES**		
non parametric test		**YES**		

*: significant at the 0.05 level

Appendix C. 27 Paired sample t-test for the number of items disclosed by countries under IAS 14R and under IFRS 8

Panel A

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Number of items disclosed by countries _ IAS14	5.49	126	2.887	.257
	Number of items disclosed by countires _ IFRS8	3.95	126	2.878	.256

Panel B

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	Number of items disclosed by countries _ IAS14 & Number of items disclosed by countires _ IFRS8	126	.595	.000

Panel C

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	Number of items disclosed by countries _ IAS14 - Number of items disclosed by countires _ IFRS8	1.540	2.594	.231	1.082	1.997	6.662	125	.000

Appendix C. 28 Pearson correlation coefficients between the quality measures of geographic disclosure and different quantitative company characteristics

Correlations

		Number of geo locations reported _ IFRS8	Individual country reported _ IFRS8	Number of regions reported _ IFRS 8	Revenue % provided by country _ IFRS8	ROWrevenue IFRS8	Fineness score _ IFRS8 _3	Fineness score _ IFRS8 _4	Fineness score _ IFRS8 _8	Number of items disclosed by country	Total sales_Y0	Foreign revenue % _ IFRS8	Capital intensity (PPE/Total assets)	Growth rate _ sales (without currency exchange rate change)	ROE	Osiris _ Current ratio	Osiris _ Solvency ratio (Liability based)	No of foreign countries with subsidiary	No of subsidiaries in foreign countries	Effective tax rate	Number of taxhaven countries with subsidiaries	Number of subsidiaries in tax havens	HHI_sales
Number of geo locations reported _ IFRS8	Pearson Correlation	1	.849**	.581**	.038	-.290**	.197*	.151	.087	-.060	.064	.530**	.004	-.122	.014	.164*	.225**	.158*	.182*	.107	.137	.164*	.061
	Sig. (2-tailed)		.000	.000	.643	.000	.014	.062	.281	.456	.428	.000	.965	.129	.862	.042	.005	.049	.024	.187	.089	.041	.448
	N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
Individual country reported _ IFRS8	Pearson Correlation	.849**	1	.062	.328**	-.139	.295**	.318**	.330**	-.026	.033	.388**	.115	-.096	.016	.098	.233**	.032	.084	.002	.077	.156	.186*
	Sig. (2-tailed)	.000		.442	.000	.085	.000	.000	.000	.746	.682	.000	.153	.235	.840	.226	.004	.689	.297	.984	.338	.052	.020
	N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
Number of regions reported _ IFRS 8	Pearson Correlation	.581**	.062	1	-.435**	-.334**	-.082	-.205**	-.344**	-.073	.070	.403**	-.171*	-.083	.001	.159*	.066	.249**	.213**	.199*	.139	.069	-.171*
	Sig. (2-tailed)	.000	.442		.000	.000	.311	.010	.000	.365	.387	.000	.034	.303	.987	.049	.411	.002	.008	.013	.084	.393	.033
	N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
Revenue % provided by country _ IFRS8	Pearson Correlation	.038	.328**	-.435**	1	-.336**	.829**	.921**	.986**	.083	-.017	-.561**	.245**	-.123	.050	-.172*	-.068	-.382**	-.294**	-.147	-.253**	-.157	.115
	Sig. (2-tailed)	.643	.000	.000		.000	.000	.000	.000	.306	.832	.000	.002	.129	.539	.032	.404	.000	.000	.069	.002	.052	.153
	N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
ROWrevenueIFRS8	Pearson Correlation	-.290**	-.139	-.334**	-.336**	1	-.747**	-.636**	-.472**	-.165*	.102	.230**	-.143	.136	.036	-.018	-.078	.313**	.285**	-.075	.193*	.193*	.184*
	Sig. (2-tailed)	.000	.085	.000	.000		.000	.000	.000	.040	.208	.004	.076	.091	.654	.827	.338	.000	.000	.356	.016	.016	.022
	N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
Fineness score _ IFRS8 _3	Pearson Correlation	.197*	.295**	-.082	.829**	-.747**	1	.982**	.912**	.164*	-.054	-.497**	.242**	-.189*	.023	-.133	-.032	-.454**	-.346**	-.060	-.298**	-.218**	-.037
	Sig. (2-tailed)	.014	.000	.311	.000	.000		.000	.000	.041	.503	.000	.002	.018	.774	.099	.693	.000	.000	.461	.000	.006	.643
	N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
Fineness score _ IFRS8 _4	Pearson Correlation	.151	.318**	-.205*	.921**	-.636**	.982**	1	.973**	.143	-.044	-.538**	.253**	-.174*	.033	-.152	-.045	-.447**	-.342**	-.092	-.294**	-.206*	.013
	Sig. (2-tailed)	.062	.000	.010	.000	.000	.000		.000	.076	.589	.000	.002	.030	.682	.060	.575	.000	.000	.257	.000	.010	.871
	N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
Fineness score _ IFRS8 _8	Pearson Correlation	.087	.330**	-.344**	.986**	-.472**	.912**	.973**	1	.110	-.029	-.562**	.253**	-.147	.044	-.167*	-.059	-.418**	-.321**	-.126	-.276**	-.181*	.074
	Sig. (2-tailed)	.281	.000	.000	.000	.000	.000	.000		.171	.720	.000	.001	.068	.590	.038	.463	.000	.000	.119	.001	.024	.363
	N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
Number of items disclosed by country	Pearson Correlation	-.060	-.026	-.073	.083	-.165*	.164*	.143	.110	1	.117	-.134	-.025	-.091	-.081	-.224**	-.098	-.061	-.111	.010	-.064	-.050	-.056
	Sig. (2-tailed)	.456	.746	.365	.306	.040	.041	.076	.171		.147	.097	.761	.260	.314	.005	.224	.451	.168	.897	.429	.538	.486
	N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
Total sales_Y0	Pearson Correlation	.064	.033	.070	-.017	.102	-.054	-.044	-.029	.117	1	.034	.108	-.161*	.001	-.136	-.104	.175*	.170*	-.032	.057	.009	.281**
	Sig. (2-tailed)	.428	.682	.387	.832	.208	.503	.589	.720	.147		.670	.182	.046	.995	.092	.199	.030	.035	.689	.482	.912	.000
	N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
Foreign revenue % _ IFRS8	Pearson Correlation	.530**	.388**	.403**	-.561**	.230**	-.497**	-.538**	-.562**	-.134	.034	1	-.133	.109	-.037	.322**	.333**	.364**	.373**	.156	.306**	.268**	.150
	Sig. (2-tailed)	.000	.000	.000	.000	.004	.000	.000	.000	.097	.670		.099	.178	.651	.000	.000	.000	.000	.052	.000	.001	.063
	N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
Capital intensity (PPE/Total assets)	Pearson Correlation	.004	.115	-.171*	.245**	-.143	.242**	.253**	.253**	-.025	.108	-.133	1	-.031	-.031	-.023	-.025	-.138	-.035	-.028	-.089	-.046	.212**
	Sig. (2-tailed)	.965	.153	.034	.002	.076	.002	.002	.001	.761	.182	.099		.702	.702	.777	.758	.087	.666	.730	.269	.568	.008
	N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
Growth rate _ sales (without currency exchange rate change)	Pearson Correlation	-.122	-.096	-.083	-.123	.136	-.189*	-.174*	-.147	-.091	-.161*	.109	-.031	1	-.004	.040	.192*	-.067	-.059	-.175*	-.034	.026	.100
	Sig. (2-tailed)	.129	.235	.303	.129	.091	.018	.030	.068	.260	.046	.178	.702		.965	.617	.016	.406	.466	.029	.672	.746	.217
	N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
ROE	Pearson Correlation	.014	.016	.001	.050	.036	.023	.033	.044	-.081	.001	-.037	-.031	-.004	1	-.012	-.010	.036	.027	.015	.016	.001	-.017
	Sig. (2-tailed)	.862	.840	.987	.539	.654	.774	.682	.590	.314	.995	.651	.702	.965		.881	.897	.660	.739	.855	.839	.991	.830
	N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
Osiris _ Current ratio	Pearson Correlation	.164*	.098	.159*	-.172*	-.018	-.133	-.152	-.167*	-.224**	-.136	.322**	-.023	.040	-.012	1	.568**	.041	.058	-.007	.031	.044	.019
	Sig. (2-tailed)	.042	.226	.049	.032	.827	.099	.060	.038	.005	.092	.000	.777	.617	.881		.000	.609	.475	.927	.701	.587	.811
	N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
Osiris _ Solvency ratio (Liability based)	Pearson Correlation	.225**	.233**	.066	-.068	-.078	-.032	-.045	-.059	-.098	-.104	.333**	-.025	.192*	-.010	.568**	1	.001	.000	-.006	-.011	.000	.141
	Sig. (2-tailed)	.005	.004	.411	.404	.338	.693	.575	.463	.224	.199	.000	.758	.016	.897	.000		.991	.996	.939	.896	.996	.080
	N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
No of foreign countries with subsidiary	Pearson Correlation	.158*	.032	.249**	-.382**	.313**	-.454**	-.447**	-.418**	-.061	.175*	.364**	-.138	-.067	.036	.041	.001	1	.850**	.032	.780**	.583**	.075
	Sig. (2-tailed)	.049	.689	.002	.000	.000	.000	.000	.000	.451	.030	.000	.087	.406	.660	.609	.991		.000	.695	.000	.000	.355
	N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
No of subsidiaries in foreign countries	Pearson Correlation	.182*	.084	.213**	-.294**	.285**	-.346**	-.342**	-.321**	-.111	.170*	.373**	-.035	-.059	.027	.058	.000	.850**	1	-.021	.718**	.648**	.174*
	Sig. (2-tailed)	.024	.297	.008	.000	.000	.000	.000	.000	.168	.035	.000	.666	.466	.739	.475	.996	.000		.796	.000	.000	.030
	N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
Effective tax rate	Pearson Correlation	.107	.002	.199*	-.147	-.075	-.060	-.092	-.126	.010	-.032	.156	-.028	-.175*	.015	-.007	-.006	.032	-.021	1	.022	-.045	-.089
	Sig. (2-tailed)	.187	.984	.013	.069	.356	.461	.257	.119	.897	.689	.052	.730	.029	.855	.927	.939	.695	.796		.788	.580	.271
	N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
Number of taxhaven countries with subsidiaries	Pearson Correlation	.137	.077	.139	-.253**	.193*	-.298**	-.294**	-.276**	-.064	.057	.306**	-.089	-.034	.016	.031	-.011	.780**	.718**	.022	1	.802**	.068
	Sig. (2-tailed)	.089	.338	.084	.002	.016	.000	.000	.001	.429	.482	.000	.269	.672	.839	.701	.896	.000	.000	.788		.000	.399
	N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
Number of subsidiaries in tax havens	Pearson Correlation	.164*	.156	.069	-.157	.193*	-.218**	-.206*	-.181*	-.050	.009	.268**	-.046	.026	.001	.044	.000	.583**	.648**	-.045	.802**	1	.067
	Sig. (2-tailed)	.041	.052	.393	.052	.016	.006	.010	.024	.538	.912	.001	.568	.746	.991	.587	.996	.000	.000	.580	.000		.408
	N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
HHI_sales	Pearson Correlation	.061	.186*	-.171*	.115	.184*	-.037	.013	.074	-.056	.281**	.150	.212**	.100	-.017	.019	.141	.075	.174*	-.089	.068	.067	1
	Sig. (2-tailed)	.448	.020	.033	.153	.022	.643	.871	.363	.486	.000	.063	.008	.217	.830	.811	.080	.355	.030	.271	.399	.408	
	N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Appendix C. 29 Kendall's tau between the quality measures of geographic disclosure and different quantitative company characteristics

Correlations

			Number of geo locations reported _ IFRS8	Individual country reported _ IFRS8	Number of regions reported _ IFRS 8	Revenue % provided by country _ IFRS8	ROWrevenue IFRS8	Fineness score _ IFRS8 _3	Fineness score _IFRS8 _4	Fineness score _IFRS8 _8	Number of items disclosed by country	Total sales_Y0	Foreign revenue % _ IFRS8	Capital intensity (PPE/Total assets)	Growth rate _ sales (without currency exchange rate change)	ROE	Osiris _ Current ratio	Osiris _ Solvency ratio (Liability based)	No of foreign countries with subsidiary	No of subsidiaries in foreign countries	Effective tax rate	Number of taxhaven countries with subsidiaries	Number of subsidiaries in tax havens	HHI_sales
Kendall's tau_b	Number of geo locations reported _ IFRS8	Correlation Coefficient	1.000	.642**	.573**	-.061	-.164**	.045	.020	-.020	-.057	.097	.434**	-.067	-.053	-.018	.127*	.227**	.260**	.258**	.130*	.199**	.225**	.062
		Sig. (2-tailed)	.	.000	.000	.293	.006	.431	.728	.723	.367	.092	.000	.247	.356	.759	.028	.000	.000	.000	.024	.002	.000	.293
		N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
	Individual country reported _ IFRS8	Correlation Coefficient	.642**	1.000	.067	.230**	-.049	.194**	.217**	.231**	-.039	.076	.323**	.062	-.002	.001	.084	.191**	.149*	.187**	.033	.112	.164*	.157**
		Sig. (2-tailed)	.000	.	.303	.000	.426	.001	.000	.000	.554	.200	.000	.297	.969	.990	.156	.001	.013	.002	.580	.086	.011	.009
		N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
	Number of regions reported _ IFRS 8	Correlation Coefficient	.573**	.067	1.000	-.377**	-.227**	-.179**	-.238**	-.318**	-.058	.140*	.294**	-.167**	-.088	-.017	.113	.128*	.236**	.188**	.182**	.162*	.147*	-.083
		Sig. (2-tailed)	.000	.303	.	.000	.000	.003	.000	.000	.375	.018	.000	.005	.138	.772	.057	.031	.000	.002	.002	.013	.023	.171
		N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
	Revenue % provided by country _ IFRS8	Correlation Coefficient	-.061	.230**	-.377**	1.000	-.198**	.741**	.822**	.926**	.061	.006	-.369**	.181**	-.023	.010	-.132*	-.116*	-.319**	-.254**	-.204**	-.221**	-.178**	.057
		Sig. (2-tailed)	.293	.000	.000	.	.000	.000	.000	.000	.305	.917	.000	.001	.673	.851	.015	.032	.000	.000	.000	.000	.003	.305
		N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
	ROWrevenueIFRS8	Correlation Coefficient	-.164**	-.049	-.227**	-.198**	1.000	-.415**	-.350**	-.262**	-.175**	.012	.102	-.138*	.094	.056	-.012	-.013	.163**	.143*	.049	.118	.096	.024
		Sig. (2-tailed)	.006	.426	.000	.000	.	.000	.000	.000	.005	.834	.070	.014	.094	.317	.837	.814	.005	.012	.383	.058	.118	.669
		N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
	Fineness score _ IFRS8 _3	Correlation Coefficient	.045	.194**	-.179**	.741**	-.415**	1.000	.920**	.816**	.107	.029	-.354**	.171**	-.056	-.009	-.118*	-.089	-.338**	-.264**	-.196**	-.238**	-.186**	.017
		Sig. (2-tailed)	.431	.001	.003	.000	.000	.	.000	.000	.071	.593	.000	.002	.298	.866	.030	.100	.000	.000	.000	.000	.002	.764
		N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
	Fineness score _ IFRS8 _4	Correlation Coefficient	.020	.217**	-.238**	.822**	-.350**	.920**	1.000	.896**	.095	.017	-.358**	.176**	-.049	-.001	-.126*	-.092	-.337**	-.266**	-.204**	-.237**	-.188**	.029
		Sig. (2-tailed)	.728	.000	.000	.000	.000	.000	.	.000	.113	.753	.000	.001	.367	.981	.020	.090	.000	.000	.000	.000	.001	.600
		N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
	Fineness score _ IFRS8 _8	Correlation Coefficient	-.020	.231**	-.318**	.926**	-.262**	.816**	.896**	1.000	.079	.018	-.370**	.181**	-.030	.004	-.129*	-.108*	-.324**	-.259**	-.202**	-.224**	-.182**	.039
		Sig. (2-tailed)	.723	.000	.000	.000	.000	.000	.000	.	.184	.742	.000	.001	.576	.937	.018	.045	.000	.000	.000	.000	.002	.478
		N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
	Number of items disclosed by country	Correlation Coefficient	-.057	-.039	-.058	.061	-.175**	.107	.095	.079	1.000	.163**	-.139*	-.024	-.035	.056	-.213**	-.097	-.040	-.078	.063	-.082	-.055	-.064
		Sig. (2-tailed)	.367	.554	.375	.305	.005	.071	.113	.184	.	.006	.020	.685	.559	.347	.000	.104	.505	.192	.287	.208	.392	.288
		N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
	Total sales_Y0	Correlation Coefficient	.097	.076	.140*	.006	.012	.029	.017	.018	.163**	1.000	-.092	.009	-.065	.037	-.200**	-.283**	.109*	.100	-.013	.046	.029	.061
		Sig. (2-tailed)	.092	.200	.018	.917	.834	.593	.753	.742	.006	.	.091	.873	.229	.495	.000	.000	.048	.067	.809	.439	.626	.269
		N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
	Foreign revenue % _ IFRS8	Correlation Coefficient	.434**	.323**	.294**	-.369**	.102	-.354**	-.358**	-.370**	-.139*	-.092	1.000	-.045	.070	.000	.238**	.318**	.267**	.265**	.111*	.187**	.176**	.140*
		Sig. (2-tailed)	.000	.000	.000	.000	.070	.000	.000	.000	.020	.091	.	.410	.194	.995	.000	.000	.000	.000	.040	.002	.003	.011
		N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
	Capital intensity (PPE/Total assets)	Correlation Coefficient	-.067	.062	-.167**	.181**	-.138*	.171**	.176**	.181**	-.024	.009	-.045	1.000	-.069	-.030	-.037	-.063	-.083	-.030	-.114*	-.068	-.047	.215**
		Sig. (2-tailed)	.247	.297	.005	.001	.014	.002	.001	.001	.685	.873	.410	.	.200	.583	.493	.245	.135	.579	.035	.251	.419	.000
		N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
	Growth rate _ sales (without currency exchange rate change)	Correlation Coefficient	-.053	-.002	-.088	-.023	.094	-.056	-.049	-.030	-.035	-.065	.070	-.069	1.000	.208**	-.009	.048	-.050	-.047	-.023	-.066	-.085	-.044
		Sig. (2-tailed)	.356	.969	.138	.673	.094	.298	.367	.576	.559	.229	.194	.200	.	.000	.866	.375	.365	.386	.672	.270	.148	.429
		N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
	ROE	Correlation Coefficient	-.018	.001	-.017	.010	.056	-.009	-.001	.004	.056	.037	.000	-.030	.208**	1.000	-.072	-.156**	-.044	-.027	.005	-.072	-.082	-.053
		Sig. (2-tailed)	.759	.990	.772	.851	.317	.866	.981	.937	.347	.495	.995	.583	.000	.	.184	.004	.427	.620	.928	.229	.163	.340
		N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
	Osiris _ Current ratio	Correlation Coefficient	.127*	.084	.113	-.132*	-.012	-.118*	-.126*	-.129*	-.213**	-.200**	.238**	-.037	-.009	-.072	1.000	.334**	.106	.120*	.136*	.072	.068	.006
		Sig. (2-tailed)	.028	.156	.057	.015	.837	.030	.020	.018	.000	.000	.000	.493	.866	.184	.	.000	.056	.028	.013	.229	.248	.909
		N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
	Osiris _ Solvency ratio (Liabilify based)	Correlation Coefficient	.227**	.191**	.128*	-.116*	-.013	-.089	-.092	-.108*	-.097	-.283**	.318**	-.063	.048	-.156**	.334**	1.000	.117*	.135*	.126*	.085	.110	.090
		Sig. (2-tailed)	.000	.001	.031	.032	.814	.100	.090	.045	.104	.000	.000	.245	.375	.004	.000	.	.034	.013	.020	.152	.061	.101
		N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
	No of foreign countries with subsidiary	Correlation Coefficient	.260**	.149*	.236**	-.319**	.163**	-.338**	-.337**	-.324**	-.040	.109*	.267**	-.083	-.050	-.044	.106	.117*	1.000	.723**	.251**	.640**	.559**	.021
		Sig. (2-tailed)	.000	.013	.000	.000	.005	.000	.000	.000	.505	.048	.000	.135	.365	.427	.056	.034	.	.000	.000	.000	.000	.710
		N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
	No of subsidiaries in foreign countries	Correlation Coefficient	.258**	.187**	.188**	-.254**	.143*	-.264**	-.266**	-.259**	-.078	.100	.265**	-.030	-.047	-.027	.120*	.135*	.723**	1.000	.179**	.578**	.552**	.048
		Sig. (2-tailed)	.000	.002	.002	.000	.012	.000	.000	.000	.192	.067	.000	.579	.386	.620	.028	.013	.000	.	.001	.000	.000	.390
		N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
	Effective tax rate	Correlation Coefficient	.130*	.033	.182**	-.204**	.049	-.196**	-.204**	-.202**	.063	-.013	.111*	-.114*	-.023	.005	.136*	.126*	.251**	.179**	1.000	.216**	.191**	-.083
		Sig. (2-tailed)	.024	.580	.002	.000	.383	.000	.000	.000	.287	.809	.040	.035	.672	.928	.013	.020	.000	.001	.	.000	.001	.130
		N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
	Number of taxhaven countries with subsidiaries	Correlation Coefficient	.199**	.112	.162*	-.221**	.118	-.238**	-.237**	-.224**	-.082	.046	.187**	-.068	-.066	-.072	.072	.085	.640**	.578**	.216**	1.000	.865**	.021
		Sig. (2-tailed)	.002	.086	.013	.000	.058	.000	.000	.000	.208	.439	.002	.251	.270	.229	.229	.152	.000	.000	.000	.	.000	.729
		N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
	Number of subsidiaries in tax havens	Correlation Coefficient	.225**	.164*	.147*	-.178**	.096	-.186**	-.188**	-.182**	-.055	.029	.176**	-.047	-.085	-.082	.068	.110	.559**	.552**	.191**	.865**	1.000	.049
		Sig. (2-tailed)	.000	.011	.023	.003	.118	.002	.001	.002	.392	.626	.003	.419	.148	.163	.248	.061	.000	.000	.001	.000	.	.411
		N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
	HHI_sales	Correlation Coefficient	.062	.157**	-.083	.057	.024	.017	.029	.039	-.064	.061	.140*	.215**	-.044	-.053	.006	.090	.021	.048	-.083	.021	.049	1.000
		Sig. (2-tailed)	.293	.009	.171	.305	.669	.764	.600	.478	.288	.269	.011	.000	.429	.340	.909	.101	.710	.390	.130	.729	.411	.
		N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Appendix C. 30 Spearman's rho between the quality measures of geographic disclosure and different quantitative company characteristics

Correlations

			Number of geo locations reported _ IFRS8	Individual country reported _ IFRS8	Number of regions reported _ IFRS 8	Revenue % provided by country _ IFRS8	ROWrevenue IFRS8	Fineness score _IFRS8 _3	Fineness score _IFRS8 _4	Fineness score _IFRS8 _8	Number of items disclosed by country	Total sales_Y0	Foreign revenue % _ IFRS8	Capital intensity (PPE/Total assets)	Growth rate _ sales (without currency exchange rate change)	ROE	Osiris _ Current ratio	Osiris _ Solvency ratio (Liability based)	No of foreign countries with subsidiary	No of subsidiaries in foreign countries	Effective tax rate	Number of taxhaven countries with subsidiaries	Number of subsidiaries in tax havens	HHI_sales
Spearman's rho	Number of geo locations reported _ IFRS8	Correlation Coefficient	1.000	.748**	.661**	-.096	-.208**	.032	.004	-.049	-.073	.134	.584**	-.100	-.068	-.027	.178*	.317**	.351**	.352**	.184*	.257**	.290**	.091
		Sig. (2-tailed)	.	.000	.000	.233	.010	.690	.957	.546	.369	.096	.000	.216	.403	.739	.027	.000	.000	.000	.022	.001	.000	.258
		N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
	Individual country reported _ IFRS8	Correlation Coefficient	.748**	1.000	.087	.296**	-.064	.256**	.283**	.298**	-.043	.097	.428**	.080	-.005	.005	.113	.242**	.198*	.255**	.045	.140	.209**	.215**
		Sig. (2-tailed)	.000	.	.279	.000	.427	.001	.000	.000	.596	.228	.000	.323	.949	.953	.162	.002	.013	.001	.575	.083	.009	.007
		N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
	Number of regions reported _ IFRS 8	Correlation Coefficient	.661**	.087	1.000	-.491**	-.277**	-.239**	-.315**	-.416**	-.072	.191*	.385**	-.229**	-.117	-.028	.158*	.175*	.310**	.247**	.247**	.197*	.178*	-.114
		Sig. (2-tailed)	.000	.279	.	.000	.000	.003	.000	.000	.374	.017	.000	.004	.146	.734	.049	.029	.000	.002	.002	.014	.026	.158
		N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
	Revenue % provided by country _ IFRS8	Correlation Coefficient	-.096	.296**	-.491**	1.000	-.240**	.906**	.954**	.990**	.082	.011	-.498**	.260**	-.038	.028	-.205*	-.169*	-.444**	-.367**	-.316**	-.295**	-.242**	.091
		Sig. (2-tailed)	.233	.000	.000	.	.003	.000	.000	.000	.312	.891	.000	.001	.642	.731	.011	.035	.000	.000	.000	.000	.002	.263
		N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
	ROWrevenueIFRS8	Correlation Coefficient	-.208**	-.064	-.277**	-.240**	1.000	-.510**	-.435**	-.328**	-.226**	.019	.138	-.202*	.138	.075	-.013	-.016	.222**	.204*	.073	.147	.112	.034
		Sig. (2-tailed)	.010	.427	.000	.003	.	.000	.000	.000	.005	.812	.088	.012	.086	.354	.876	.847	.005	.011	.367	.069	.166	.678
		N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
	Fineness score _ IFRS8 _3	Correlation Coefficient	.032	.256**	-.239**	.906**	-.510**	1.000	.989**	.951**	.146	.037	-.492**	.246**	-.092	-.010	-.173*	-.133	-.474**	-.376**	-.297**	-.314**	-.250**	.033
		Sig. (2-tailed)	.690	.001	.003	.000	.000	.	.000	.000	.071	.646	.000	.002	.253	.901	.031	.099	.000	.000	.000	.000	.002	.687
		N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
	Fineness score _ IFRS8 _4	Correlation Coefficient	.004	.283**	-.315**	.954**	-.435**	.989**	1.000	.983**	.129	.026	-.495**	.253**	-.079	.003	-.185*	-.138	-.469**	-.376**	-.309**	-.312**	-.252**	.048
		Sig. (2-tailed)	.957	.000	.000	.000	.000	.000	.	.000	.110	.753	.000	.001	.330	.966	.021	.088	.000	.000	.000	.000	.002	.554
		N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
	Fineness score _ IFRS8 _8	Correlation Coefficient	-.049	.298**	-.416**	.990**	-.328**	.951**	.983**	1.000	.105	.029	-.506**	.257**	-.048	.019	-.198*	-.160*	-.453**	-.372**	-.309**	-.298**	-.244**	.065
		Sig. (2-tailed)	.546	.000	.000	.000	.000	.000	.000	.	.194	.723	.000	.001	.549	.818	.013	.046	.000	.000	.000	.000	.002	.419
		N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
	Number of items disclosed by country	Correlation Coefficient	-.073	-.043	-.072	.082	-.226**	.146	.129	.105	1.000	.213**	-.189*	-.033	-.047	.079	-.288**	-.139	-.047	-.102	.081	-.097	-.069	-.087
		Sig. (2-tailed)	.369	.596	.374	.312	.005	.071	.110	.194	.	.008	.019	.687	.564	.331	.000	.085	.562	.206	.314	.229	.395	.279
		N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
	Total sales_Y0	Correlation Coefficient	.134	.097	.191*	.011	.019	.037	.026	.029	.213**	1.000	-.143	.017	-.103	.056	-.292**	-.415**	.155	.147	-.011*	.063	.038	.094
		Sig. (2-tailed)	.096	.228	.017	.891	.812	.646	.753	.723	.008	.	.075	.834	.203	.489	.000	.000	.054	.068	.895	.436	.635	.247
		N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
	Foreign revenue % _ IFRS8	Correlation Coefficient	.584**	.428**	.385**	-.498**	.138	-.492**	-.495**	-.506**	-.189*	-.143	1.000	-.061	.100	-.014	.361**	.459**	.376**	.374**	.186*	.256**	.245**	.203*
		Sig. (2-tailed)	.000	.000	.000	.000	.088	.000	.000	.000	.019	.075	.	.450	.218	.864	.000	.000	.000	.000	.020	.001	.002	.011
		N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
	Capital intensity (PPE/Total assets)	Correlation Coefficient	-.100	.080	-.229**	.260**	-.202*	.246**	.253**	.257**	-.033	.017	-.061	1.000	-.100	-.048	-.048	-.096	-.128	-.055	-.169*	-.095	-.067	.328**
		Sig. (2-tailed)	.216	.323	.004	.001	.012	.002	.001	.001	.687	.834	.450	.	.216	.551	.555	.237	.113	.493	.036	.240	.406	.000
		N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
	Growth rate _ sales (without currency exchange rate change)	Correlation Coefficient	-.068	-.005	-.117	-.038	.138	-.092	-.079	-.048	-.047	-.103	.100	-.100	1.000	.314**	-.016	.067	-.074	-.072	-.035	-.092	-.114	-.059
		Sig. (2-tailed)	.403	.949	.146	.642	.086	.253	.330	.549	.564	.203	.218	.216	.	.000	.842	.409	.362	.372	.662	.257	.158	.463
		N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
	ROE	Correlation Coefficient	-.027	.005	-.028	.028	.075	-.010	.003	.019	.079	.056	-.014	-.048	.314**	1.000	-.101	-.208**	-.067	-.042	.036	-.094	-.110	-.079
		Sig. (2-tailed)	.739	.953	.734	.731	.354	.901	.966	.818	.331	.489	.864	.551	.000	.	.209	.009	.409	.600	.654	.245	.174	.330
		N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
	Osiris _ Current ratio	Correlation Coefficient	.178*	.113	.158*	-.205*	-.013	-.173*	-.185*	-.198*	-.288**	-.292**	.361**	-.048	-.016	-.101	1.000	.472**	.157	.187*	.203*	.091	.091	.009
		Sig. (2-tailed)	.027	.162	.049	.011	.876	.031	.021	.013	.000	.000	.000	.555	.842	.209	.	.000	.051	.020	.011	.258	.262	.915
		N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
	Osiris _ Solvency ratio (Liability based)	Correlation Coefficient	.317**	.242**	.175*	-.169*	-.016	-.133	-.138	-.160*	-.139	-.415**	.459**	-.096	.067	-.208**	.472**	1.000	.169*	.192*	.187*	.114	.150	.135
		Sig. (2-tailed)	.000	.002	.029	.035	.847	.099	.088	.046	.085	.000	.000	.237	.409	.009	.000	.	.035	.016	.020	.156	.063	.094
		N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
	No of foreign countries with subsidiary	Correlation Coefficient	.351**	.198*	.310**	-.444**	.222**	-.474**	-.469**	-.453**	-.047	.155	.376**	-.128	-.074	-.067	.157	.169*	1.000	.868**	.370**	.774**	.701**	.026
		Sig. (2-tailed)	.000	.013	.000	.000	.005	.000	.000	.000	.562	.054	.000	.113	.362	.409	.051	.035	.	.000	.000	.000	.000	.750
		N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
	No of subsidiaries in foreign countries	Correlation Coefficient	.352**	.255**	.247**	-.367**	.204*	-.376**	-.376**	-.372**	-.102	.147	.374**	-.055	-.072	-.042	.187*	.192*	.868**	1.000	.271**	.716**	.701**	.073
		Sig. (2-tailed)	.000	.001	.002	.000	.011	.000	.000	.000	.206	.068	.000	.493	.372	.600	.020	.016	.000	.	.001	.000	.000	.368
		N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
	Effective tax rate	Correlation Coefficient	.184*	.045	.247**	-.316**	.073	-.297**	-.309**	-.309**	.081	-.011	.186*	-.169*	-.035	.036	.203*	.187*	.370**	.271**	1.000	.282**	.251**	-.123
		Sig. (2-tailed)	.022	.575	.002	.000	.367	.000	.000	.000	.314	.895	.020	.036	.662	.654	.011	.020	.000	.001	.	.000	.002	.127
		N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
	Number of taxhaven countries with subsidiaries	Correlation Coefficient	.257**	.140	.197*	-.295**	.147	-.314**	-.312**	-.298**	-.097	.063	.256**	-.095	-.092	-.094	.091	.114	.774**	.716**	.282**	1.000	.940**	.027
		Sig. (2-tailed)	.001	.083	.014	.000	.069	.000	.000	.000	.229	.436	.001	.240	.257	.245	.258	.156	.000	.000	.000	.	.000	.734
		N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
	Number of subsidiaries in tax havens	Correlation Coefficient	.290**	.209**	.178*	-.242**	.112	-.250**	-.252**	-.244**	-.069	.038	.245**	-.067	-.114	-.110	.091	.150	.701**	.701**	.251**	.940**	1.000	.063
		Sig. (2-tailed)	.000	.009	.026	.002	.166	.002	.002	.002	.395	.635	.002	.406	.158	.174	.262	.063	.000	.000	.002	.000	.	.437
		N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
	HHI_sales	Correlation Coefficient	.091	.215**	-.114	.091	.034	.033	.048	.065	-.087	.094	.203*	.328**	-.059	-.079	.009	.135	.026	.073	-.123	.027	.063	1.000
		Sig. (2-tailed)	.258	.007	.158	.263	.678	.687	.554	.419	.279	.247	.011	.000	.463	.330	.915	.094	.750	.368	.127	.734	.437	.
		N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155

**. Correlation is signifcant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Appendix C. 31 Kendall's tau between the different quality measures of geographic disclosure under IAS 14R and IFRS 8

Correlations

			Number of geo locations reported _ IAS 14	Number of geo locations reported _ IFRS8	Individual country reported _ IAS 14	Individual country reported _ IFRS8	Number of regions reported _ IAS 14	Number of regions reported _ IFRS 8	Revenue % provided by country _ IAS14	Revenue % provided by country _ IFRS8	ROWrevenue IAS14	ROWrevenue IFRS8	Fineness score _ IAS14 _3	Fineness score _ IFRS8 _3	Fineness score _ IAS14_4	Fineness score _ IFRS8 _4	Fineness score IAS14_8	Fineness score _ IFRS8 _8
Kendall's tau_b	Number of geo locations reported _ IAS 14	Correlation Coefficient	1.000	.560**	.343**	.308**	.602**	.476**	-.090	-.172**	.018	.000	-.064	-.096	-.065	-.122*	-.073	-.144*
		Sig. (2-tailed)	.	.000	.000	.000	.000	.000	.131	.003	.772	1.000	.280	.104	.268	.038	.214	.015
		N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
	Number of geo locations reported _ IFRS8	Correlation Coefficient	**.560****	1.000	.148*	.642**	.429**	.573**	-.205**	-.061	-.057	-.164**	-.162**	.045	-.177**	.020	-.196**	-.020
		Sig. (2-tailed)	**.000**	.	.022	.000	.000	.000	.000	.293	.353	.006	.005	.431	.002	.728	.001	.723
		N	**155**	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
	Individual country reported _ IAS 14	Correlation Coefficient	.343**	.148*	1.000	.244**	-.255**	-.040	.569**	.266**	-.040	-.195**	.498**	.344**	.532**	.328**	.556**	.303**
		Sig. (2-tailed)	.000	.022	.	.000	.000	.547	.000	.000	.538	.002	.000	.000	.000	.000	.000	.000
		N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
	Individual country reported _ IFRS8	Correlation Coefficient	.308**	.642**	**.244****	1.000	.123	.067	-.078	.230**	-.085	-.049	-.049	.194**	-.062	.217**	-.073	.231**
		Sig. (2-tailed)	.000	.000	**.000**	.	.058	.303	.193	.000	.178	.426	.408	.001	.299	.000	.219	.000
		N	155	155	**155**	155	155	155	155	155	155	155	155	155	155	155	155	155
	Number of regions reported _ IAS 14	Correlation Coefficient	.602**	.429**	-.255**	.123	1.000	.630**	-.519**	-.410**	.033	.115	-.440**	-.358**	-.465**	-.380**	-.490**	-.398**
		Sig. (2-tailed)	.000	.000	.000	.058	.	.000	.000	.000	.604	.061	.000	.000	.000	.000	.000	.000
		N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
	Number of regions reported _ IFRS 8	Correlation Coefficient	.476**	.573**	-.040	.067	**.630****	1.000	-.277**	-.377**	.002	-.227**	-.238**	-.179**	-.248**	-.238**	-.263**	-.318**
		Sig. (2-tailed)	.000	.000	.547	.303	**.000**	.	.000	.000	.970	.000	.000	.003	.000	.000	.000	.000
		N	155	155	155	155	**155**	155	155	155	155	155	155	155	155	155	155	155
	Revenue % provided by country _ IAS14	Correlation Coefficient	-.090	-.205**	.569**	-.078	-.519**	-.277**	1.000	.520**	-.161**	-.252**	.799**	.545**	.862**	.541**	.939**	.540**
		Sig. (2-tailed)	.131	.000	.000	.193	.000	.000	.	.000	.006	.000	.000	.000	.000	.000	.000	.000
		N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
	Revenue % provided by country _ IFRS8	Correlation Coefficient	-.172**	-.061	.266**	.230**	-.410**	-.377**	**.520****	1.000	-.162**	-.198**	.498**	.741**	.507**	.822**	.511**	.926**
		Sig. (2-tailed)	.003	.293	.000	.000	.000	.000	**.000**	.	.005	.000	.000	.000	.000	.000	.000	.000
		N	155	155	155	155	155	155	**155**	155	155	155	155	155	155	155	155	155
	ROWrevenueIAS14	Correlation Coefficient	.018	-.057	-.040	-.085	.033	.002	-.161**	-.162**	1.000	.562**	-.248**	-.237**	-.213**	-.214**	-.178**	-.181**
		Sig. (2-tailed)	.772	.353	.538	.178	.604	.970	.006	.005	.	.000	.000	.000	.000	.000	.002	.002
		N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
	ROWrevenueIFRS8	Correlation Coefficient	.000	-.164**	-.195**	-.049	.115	-.227**	-.252**	-.198**	**.562****	1.000	-.282**	-.415**	-.275**	-.350**	-.260**	-.262**
		Sig. (2-tailed)	1.000	.006	.002	.426	.061	.000	.000	.000	**.000**	.	.000	.000	.000	.000	.000	.000
		N	155	155	155	155	155	155	155	155	**155**	155	155	155	155	155	155	155
	Fineness score _ IAS14 _ 3	Correlation Coefficient	-.064	-.162**	.498**	-.049	-.440**	-.238**	.799**	.498**	-.248**	-.282**	1.000	.594**	.938**	.572**	.862**	.534**
		Sig. (2-tailed)	.280	.005	.000	.408	.000	.000	.000	.000	.000	.000	.	.000	.000	.000	.000	.000
		N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
	Fineness score _ IFRS8 _3	Correlation Coefficient	-.096	.045	.344**	.194**	-.358**	-.179**	.545**	.741**	-.237**	-.415**	**.594****	1.000	.581**	.920**	.556**	.816**
		Sig. (2-tailed)	.104	.431	.000	.001	.000	.003	.000	.000	.000	.000	**.000**	.	.000	.000	.000	.000
		N	155	155	155	155	155	155	155	155	155	155	**155**	155	155	155	155	155
	Fineness score _ IAS14_4	Correlation Coefficient	-.065	-.177**	.532**	-.062	-.465**	-.248**	.862**	.507**	-.213**	-.275**	.938**	.581**	1.000	.567**	.924**	.539**
		Sig. (2-tailed)	.268	.002	.000	.299	.000	.000	.000	.000	.000	.000	.000	.000	.	.000	.000	.000
		N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
	Fineness score _ IFRS8 _4	Correlation Coefficient	-.122*	.020	.328**	.217**	-.380**	-.238**	.541**	.822**	-.214**	-.350**	.572**	.920**	**.567****	1.000	.547**	.896**
		Sig. (2-tailed)	.038	.728	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	**.000**	.	.000	.000
		N	155	155	155	155	155	155	155	155	155	155	155	155	**155**	155	155	155
	Fineness score _ IAS14_8	Correlation Coefficient	-.073	-.196**	.556**	-.073	-.490**	-.263**	.939**	.511**	-.178**	-.260**	.862**	.556**	.924**	.547**	1.000	.537**
		Sig. (2-tailed)	.214	.001	.000	.219	.000	.000	.000	.000	.002	.000	.000	.000	.000	.000	.	.000
		N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
	Fineness score _ IFRS8 _8	Correlation Coefficient	-.144*	-.020	.303**	.231**	-.398**	-.318**	.540**	.926**	-.181**	-.262**	.534**	.816**	.539**	.896**	**.537****	1.000
		Sig. (2-tailed)	.015	.723	.000	.000	.000	.000	.000	.000	.002	.000	.000	.000	.000	.000	**.000**	.
		N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	**155**	155

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Appendix C. 32 Spearman's rho between the different quality measures of geographic disclosure under IAS 14R and IFRS 8

Correlations

			Number of geo locations reported _ IAS 14	Number of geo locations reported _ IFRS8	Individual country reported _ IAS 14	Individual country reported _ IFRS8	Number of regions reported _ IAS 14	Number of regions reported _ IFRS 8	Revenue % provided by country_ IAS14	Revenue % provided by country_ IFRS8	ROWrevenue IAS14	ROWrevenue IFRS8	Fineness score _ IAS14 _3	Fineness score _ IFRS8 _3	Fineness score _ IAS14_4	Fineness score _ IFRS8 _4	Fineness score _ IAS14_8	Fineness score _ IFRS8 _8
Spearman's rho	Number of geo locations reported _ IAS 14	Correlation Coefficient	1.000	.651**	.407**	.379**	.681**	.554**	-.150	-.239**	.032	.009	-.124	-.145	-.125	-.174*	-.136	-.204*
		Sig. (2-tailed)	.	.000	.000	.000	.000	.000	.063	.003	.695	.915	.125	.072	.120	.030	.093	.011
		N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
	Number of geo locations reported _ IFRS8	Correlation Coefficient	**.651****	1.000	.188*	.748**	.507**	.661**	-.282**	-.096	-.071	-.208**	-.232**	.032	-.250**	.004	-.272**	-.049
		Sig. (2-tailed)	**.000**	.	.019	.000	.000	.000	.000	.233	.381	.010	.004	.690	.002	.957	.001	.546
		N	**155**	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
	Individual country reported _ IAS 14	Correlation Coefficient	.407**	.188*	1.000	.282**	-.305**	-.048	.696**	.351**	-.050	-.248**	.634**	.448**	.665**	.428**	.689**	.396**
		Sig. (2-tailed)	.000	.019	.	.000	.000	.552	.000	.000	.534	.002	.000	.000	.000	.000	.000	.000
		N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
	Individual country reported _ IFRS8	Correlation Coefficient	.379**	.748**	**.282****	1.000	.156	.087	-.110	.296**	-.107	-.064	-.070	.256**	-.086	.283**	-.104	.298**
		Sig. (2-tailed)	.000	.000	**.000**	.	.053	.279	.172	.000	.186	.427	.387	.001	.285	.000	.196	.000
		N	155	155	**155**	155	155	155	155	155	155	155	155	155	155	155	155	155
	Number of regions reported _ IAS 14	Correlation Coefficient	.681**	.507**	-.305**	.156	1.000	.681**	-.660**	-.532**	.051	.147	-.582**	-.474**	-.608**	-.499**	-.638**	-.519**
		Sig. (2-tailed)	.000	.000	.000	.053	.	.000	.000	.000	.525	.068	.000	.000	.000	.000	.000	.000
		N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
	Number of regions reported _ IFRS 8	Correlation Coefficient	.554**	.661**	-.048	.087	**.681****	1.000	-.358**	-.491**	.010	-.277**	-.321**	-.239**	-.331**	-.315**	-.346**	-.416**
		Sig. (2-tailed)	.000	.000	.552	.279	**.000**	.	.000	.000	.906	.000	.000	.003	.000	.000	.000	.000
		N	155	155	155	155	**155**	155	155	155	155	155	155	155	155	155	155	155
	Revenue % provided by country _ IAS14	Correlation Coefficient	-.150	-.282**	.696**	-.110	-.660**	-.358**	1.000	.660**	-.207**	-.337**	.932**	.707**	.965**	.699**	.990**	.686**
		Sig. (2-tailed)	.063	.000	.000	.172	.000	.000	.	.000	.010	.000	.000	.000	.000	.000	.000	.000
		N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
	Revenue % provided by country _ IFRS8	Correlation Coefficient	-.239**	-.096	.351**	.296**	-.532**	-.491**	**.660****	1.000	-.221**	-.240**	.667**	.906**	.668**	.954**	.664**	.990**
		Sig. (2-tailed)	.003	.233	.000	.000	.000	.000	**.000**	.	.006	.003	.000	.000	.000	.000	.000	.000
		N	155	155	155	155	155	155	**155**	155	155	155	155	155	155	155	155	155
	ROWrevenueIAS14	Correlation Coefficient	.032	-.071	-.050	-.107	.051	.010	-.207**	-.221**	1.000	.634**	-.306**	-.305**	-.268**	-.280**	-.226**	-.245**
		Sig. (2-tailed)	.695	.381	.534	.186	.525	.906	.010	.006	.	.000	.000	.000	.001	.000	.005	.002
		N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
	ROWrevenueIFRS8	Correlation Coefficient	.009	-.208**	-.248**	-.064	.147	-.277**	-.337**	-.240**	**.634****	1.000	-.377**	-.510**	-.366**	-.435**	-.351**	-.328**
		Sig. (2-tailed)	.915	.010	.002	.427	.068	.000	.000	.003	**.000**	.	.000	.000	.000	.000	.000	.000
		N	155	155	155	155	155	155	155	155	**155**	155	155	155	155	155	155	155
	Fineness score _ IAS14 _ 3	Correlation Coefficient	-.124	-.232**	.634**	-.070	-.582**	-.321**	.932**	.667**	-.306**	-.377**	1.000	.754**	.992**	.733**	.966**	.701**
		Sig. (2-tailed)	.125	.004	.000	.387	.000	.000	.000	.000	.000	.000	.	.000	.000	.000	.000	.000
		N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
	Fineness score _ IFRS8 _3	Correlation Coefficient	-.145	.032	.448**	.256**	-.474**	-.239**	.707**	.906**	-.305**	-.510**	**.754****	1.000	.745**	.989**	.725**	.951**
		Sig. (2-tailed)	.072	.690	.000	.001	.000	.003	.000	.000	.000	.000	**.000**	.	.000	.000	.000	.000
		N	155	155	155	155	155	155	155	155	155	155	**155**	155	155	155	155	155
	Fineness score _ IAS14_4	Correlation Coefficient	-.125	-.250**	.665**	-.086	-.608**	-.331**	.965**	.668**	-.268**	-.366**	.992**	.745**	1.000	.727**	.989**	.701**
		Sig. (2-tailed)	.120	.002	.000	.285	.000	.000	.000	.000	.001	.000	.000	.000	.	.000	.000	.000
		N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
	Fineness score _ IFRS8 _4	Correlation Coefficient	-.174*	.004	.428**	.283**	-.499**	-.315**	.699**	.954**	-.280**	-.435**	.733**	.989**	**.727****	1.000	.713**	.983**
		Sig. (2-tailed)	.030	.957	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	**.000**	.	.000	.000
		N	155	155	155	155	155	155	155	155	155	155	155	155	**155**	155	155	155
	Fineness score _ IAS14_8	Correlation Coefficient	-.136	-.272**	.689**	-.104	-.638**	-.346**	.990**	.664**	-.226**	-.351**	.966**	.725**	.989**	.713**	1.000	.694**
		Sig. (2-tailed)	.093	.001	.000	.196	.000	.000	.000	.000	.005	.000	.000	.000	.000	.000	.	.000
		N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
	Fineness score _ IFRS8 _8	Correlation Coefficient	-.204*	-.049	.396**	.298**	-.519**	-.416**	.686**	.990**	-.245**	-.328**	.701**	.951**	.701**	.983**	**.694****	1.000
		Sig. (2-tailed)	.011	.546	.000	.000	.000	.000	.000	.000	.002	.000	.000	.000	.000	.000	**.000**	.
		N	155	155	155	155	155	155	155	155	155	155	155	155	155	155	**155**	155

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Appendix D Appendices to Chapter 7

Appendix D. 1 Materiality notes _ extracts

1. *"The Group considers the United Kingdom to be its country of domicile. No other single country contributes more than 10% of the Group's revenue or non-current assets."* (WS Atkins plc 2010 Annual Report and Accounts, p91)
2. *"No individual country accounted for 10% or more of the Group's total revenue. ... There are no material non-current assets located in an individual country outside of the UK." (AVEVA Group plc 2010 Annual Report and Accounts, p60)*
3. *"External revenue attributable to the UK is £2 624m (2007 £2 021m). External revenue attributable to foreign countries is £9 942m (2007 £6 270m) and includes £888m (2007 £1 776m) from external customers attributed to the USA representing 7% (2007 21%) of Group revenue; £1 285m (2007 £815m, 10%) from external customers attributed to Brazil representing 10% of Group revenue; and £1 309m from external customers attributed to Japan representing 10% of Group revenue (2007 £495m, 6%). .... Amount* [Non-current assets] *attributable to the UK is £3 108m (2007 £2 595m). Amount attributable to foreign countries is £14 036m (2007 £7 266m) and includes £2 732m (2007 £nil) located in Australia representing 16% of the Group total."* (BG Group 2008 Annual Report and Accounts, p75 and p77)
4. *"In addition to the United Kingdom, revenue relating to an individual country is separately disclosed when it represents 10% or more of total revenue. ... Non-current assets relating to an individual country are separately disclosed when they represent 10% or more of total non-current assets, as defined above."* (IHG 2009 Annual Reports and Financial Statements, p75)
5. *"The Group operates in numerous countries throughout the world. Management has determined that revenues from external customers attributed to an individual foreign country are material if they make up more than 10% of consolidated Group revenue, and in such cases the revenue arising in these countries is disclosed separately."* (Aeigis Group plc 2009 Annual report and Accounts, p56)
6. *"Those countries which account for more than 10% of the group's total revenue and / or non-current assets are considered individually material and are reported separately ... ."* (SABMiller plc Annual Report 2010, p87)
7. *"Individual countries which comprised more than 10% of group revenue were: ..." "No overseas country had non-current assets amounting to 10% or more of the Group's total non-current assets."* (Renishaw plc Annual Report and Accounts 2010, pp33-34)

Appendix D. 1 (continued) Materiality notes _ extracts

8. *"All the business segments are managed on a worldwide basis but the main countries, which represent greater than 10% of either the Group's external revenues or non-current assets, are Australia, China (including Hong Kong), the United Kingdom and the United States."* (Intertek Group Annual Report 2009, p85)
9. *"No other country had turnover or non-current assets (as shown above) greater than 10% of the Group total."* (Unilever Annual Report and Accounts 2009, p88)
10. *"The Group's geographic analysis is presented on the following level:*
    - *• continental; or*
    - *• sub-continental; or*
    - *• by individual country (if greater than 10% of the Group total*)." (Mondi Group Annual Report and Accounts 2009, p100)
11. *"The Group's revenue and non-current assets (excluding the financial asset and deferred tax assets) by geographical location are separately detailed below where they exceed 10% of total revenue or non-current assets, respectively, in any particular year:..."* (SOCO International plc Annual Report and Accounts 2009, p71)
12. *"No individual country amounts to more than 3% of turnover, other than those noted below."* (Spectris plc. Annual Report and Accounts 2009, p65)
13. *"With the exception of the UK and Spain, no individual country contributed more than 10% of consolidated sales or assets."* (The Rank Group plc Annual Report and Financial Statements 2009, p72)
14. *"Included in the external revenue from foreign countries is £1,529 million (2008: £1,361 million) attributable to Brazil, being the only subsidiary contributing more than 10 per cent of the Group's external revenue in 2009 and 2008. Included in non-current assets are amounts of £1,805 million (2008: £1,884 million) attributable to the investment in Reynolds American and £682 million (2008: £638 million) attributable to the investments in the Indian associates ITC and VST."* (British American Tobacco Annual Report 2009, p123)

Appendix D. 2 Materiality thresholds under IAS 14R and IFRS 8 by different quantitative company characteristics

Standard	Materiality threshold* under IAS 14R				Materiality threshold under IFRS 8							
Revenue / NCA	Revenue				Revenue				NCA			
Sample	N=42				N=76				N=76			
Materiality categories	**< 5%**	**5 - 10%**	**> 10%**	**Total**	**< 5%**	**5 - 10%**	**> 10%**	**Total**	**< 5%**	**5 - 10%**	**> 10%**	**Total**
Number of companies	**7**	**12**	**23**	**42**	**22**	**19**	**35**	**76**	**20**	**14**	**42**	**76**
% of companies	**16.67**	**28.57**	**54.76**	**100.00**	**28.95**	**25.00**	**46.05**	**100.00**	**26.32**	**18.42**	**55.26**	**100.00**
Dependent, quantitative variables												
% of revenues in smallest country reported												
Mean	**2.21**	**8.36**	**24.12**	**15.97**	**1.74**	**7.29**	**26.13**	**14.36**	**4.37**	**8.05**	**21.22**	**14.36**
Median	2.81	8.91	20.62	**10.97**	1.64	7.48	21.36	**9.13**	3.19	8.69	17.70	**9.13**
Minimum	0.01	5.97	10.33	**0.01**	0.02	5.00	10.59	**0.02**	0.02	0.54	0.14	**0.02**
Maximum	3.33	9.87	50.90	**50.90**	3.98	9.84	63.91	**63.91**	23.18	15.33	63.91	**63.91**
Standard Deviation	1.29	1.28	12.53	**13.10**	1.32	1.71	14.19	**14.72**	5.19	4.24	16.35	**14.72**
Significant** effect on dependent variable									parametric test: **YES**		non parametric test: **YES**	
% of NCA in smallest country reported												
Mean					**5.80**	**12.57**	**32.68**	**19.87**	**1.55**	**7.50**	**32.72**	**19.87**
Median					3.95	7.98	28.43	**11.69**	0.88	7.55	23.76	**11.69**
Minimum					0.01	0.06	0.10	**0.01**	0.01	5.65	10.33	**0.01**
Maximum					20.32	55.35	99.97	**99.97**	4.75	9.56	99.97	**99.97**
Standard Deviation					6.15	14.94	25.89	**22.72**	1.59	1.20	23.61	**22.72**
Significant effect on dependent variable					parametric test: **YES**		non parametric test: **YES**					
% of foreign revenue												
Mean	**53.86**	**86.50**	**87.99**	**81.88**	**77.41**	**70.22**	**83.04**	**78.21**	**74.49**	**81.43**	**78.91**	**78.21**
Median	64.13	98.08	92.88	**92.22**	84.54	80.71	89.89	**84.80**	84.54	90.41	84.52	**84.80**
Minimum	0.80	14.35	39.19	**0.80**	2.37	8.24	35.97	**2.37**	2.37	30.72	8.24	**2.37**
Maximum	100.00	100.00	100.00	**100.00**	99.79	100.00	100.00	**100.00**	100.00	99.87	100.00	**100.00**
Standard Deviation	42.63	24.72	15.84	**26.94**	27.69	29.82	17.25	**24.29**	32.54	19.58	21.37	**24.29**
Significant effect on dependent variable	parametric test: NO		non parametric test: NO		parametric test: NO		non parametric test: NO		parametric test: NO		non parametric test: NO	
% of foreign NCA												
Mean					**72.13**	**56.75**	**79.93**	**71.88**	**65.71**	**68.23**	**76.03**	**71.88**
Median					83.29	56.09	85.29	**82.73**	78.22	78.30	83.09	**82.73**
Minimum					0.11	1.36	22.20	**0.11**	0.11	9.98	22.20	**0.11**
Maximum					99.09	99.50	100.00	**100.00**	100.00	99.91	100.00	**100.00**
Standard Deviation					27.66	33.07	19.66	**27.21**	34.88	31.17	21.01	**27.21**
Significant effect on dependent variable					parametric test: **YES**		non parametric test: **YES**		parametric test: NO		non parametric test: NO	
% of revenues reported by country												
Mean	**81.45**	**38.76**	**54.43**	**54.46**	**72.31**	**72.82**	**57.36**	**65.55**	**75.22**	**71.43**	**58.99**	**65.55**
Median	82.75	31.65	52.04	**52.83**	75.63	78.61	52.99	**68.03**	76.79	75.45	53.16	**68.03**
Minimum	46.58	8.23	11.49	**8.23**	29.44	24.77	14.51	**14.51**	24.77	24.77	14.51	**14.51**
Maximum	100.00	94.34	100.00	**100.00**	100.00	97.58	100.00	**100.00**	100.00	97.09	100.00	**100.00**
Standard Deviation	20.44	30.57	27.07	**30.02**	22.36	21.98	23.01	**23.54**	22.10	23.36	22.65	**23.54**
Significant effect on dependent variable	parametric test: **YES**		non parametric test: **YES**		parametric test: **YES**		non parametric test: **YES**		parametric test: **YES**		non parametric test: **YES**	
Number of locations reported												
Mean	**5.57**	**5.83**	**5.04**	**5.36**	**7.68**	**6.68**	**4.69**	**6.05**	**7.75**	**6.57**	**5.07**	**6.05**
Median	5.00	5.50	4.00	**5.00**	8.00	7.00	4.00	**5.00**	8.00	6.00	4.50	**5.00**
Minimum	2.00	4.00	2.00	**2.00**	2.00	3.00	2.00	**2.00**	2.00	4.00	2.00	**2.00**
Maximum	9.00	9.00	10.00	**10.00**	15.00	10.00	10.00	**15.00**	15.00	11.00	10.00	**15.00**
Standard Deviation	2.88	1.53	2.06	**2.06**	3.15	2.47	1.80	**2.73**	3.28	2.47	2.06	**2.73**
Significant effect on dependent variable	parametric test: NO		non parametric test: NO		parametric test: **YES**		non parametric test: **YES**		parametric test: **YES**		non parametric test: **YES**	
Number of countries reported												
Mean	**4.00**	**2.25**	**2.39**	**2.62**	**5.09**	**4.16**	**2.49**	**3.66**	**5.10**	**4.29**	**2.76**	**3.66**
Median	3.00	2.50	2.00	**2.00**	4.00	4.00	2.00	**3.00**	4.00	4.00	2.00	**3.00**
Minimum	2.00	1.00	1.00	**1.00**	2.00	2.00	1.00	**1.00**	2.00	2.00	1.00	**1.00**
Maximum	9.00	4.00	6.00	**9.00**	11.00	7.00	5.00	**11.00**	11.00	8.00	5.00	**11.00**
Standard Deviation	2.65	1.06	1.41	**1.67**	2.88	1.57	0.92	**2.15**	3.02	1.82	1.08	**2.15**
Significant effect on dependent variable	parametric test: NO		non parametric test: NO		parametric test: **YES**		non parametric test: **YES**		parametric test: **YES**		non parametric test: **YES**	

*: smallest revenue (NCA) % disclosed by the companies

**: significant at the 0.05 level

Appendix D. 2 (continued) Materiality thresholds under IAS 14R and IFRS 8 by different quantitative company characteristics

Standard	Materiality threshold* under IAS 14R				Materiality threshold under IFRS 8							
Revenue / NCA	Revenue				Revenue				NCA			
Sample	N=42				N=76				N=76			
Materiality categories	**< 5%**	**5 - 10%**	**> 10%**	**Total**	**< 5%**	**5 - 10%**	**> 10%**	**Total**	**< 5%**	**5 - 10%**	**> 10%**	**Total**
Number of companies	**7**	**12**	**23**	**42**	**22**	**19**	**35**	**76**	**20**	**14**	**42**	**76**
% of companies	**16.67**	**28.57**	**54.76**	**100.00**	**28.95**	**25.00**	**46.05**	**100.00**	**26.32**	**18.42**	**55.26**	**100.00**
Dependent, quantitative variables												
Number of foreign countries with subsidiary												
Mean					**8.59**	**11.84**	**14.74**	**12.24**	**7.75**	**13.86**	**13.83**	**12.24**
Median					7.50	10.00	9.00	**9.00**	7.50	10.50	9.50	**9.00**
Minimum					1.00	2.00	1.00	**1.00**	1.00	4.00	1.00	**1.00**
Maximum					37.00	30.00	51.00	**51.00**	19.00	37.00	51.00	**51.00**
Standard Deviation					8.43	8.00	12.91	**10.85**	5.66	8.99	12.71	**10.85**
Significant effect on dependent variable					parametric test: NO		non parametric test: NO		parametric test: **YES**		non parametric test: NO	
Number of subsidiaries in foreign countries												
Mean					**18.18**	**25.11**	**28.37**	**24.61**	**17.00**	**25.57**	**27.90**	**24.61**
Median					16.00	18.00	22.00	**19.00**	16.00	22.50	19.50	**19.00**
Minimum					1.00	3.00	3.00	**1.00**	1.00	11.00	2.00	**1.00**
Maximum					64.00	76.00	92.00	**92.00**	35.00	64.00	92.00	**92.00**
Standard Deviation					15.17	19.02	25.33	**21.47**	10.77	14.67	26.10	**21.47**
Significant effect on dependent variable					parametric test: NO		non parametric test: NO		parametric test: **YES**		non parametric test: NO	
Number of items disclosed by countries												
Mean					**3.45**	**2.68**	**3.14**	**3.12**	**3.05**	**3.14**	**3.14**	**3.12**
Median					2.00	2.00	2.00	**2.00**	2.00	2.00	2.00	**2.00**
Minimum					2.00	2.00	2.00	**2.00**	2.00	2.00	2.00	**2.00**
Maximum					11.00	6.00	9.00	**11.00**	8.00	8.00	11.00	**11.00**
Standard Deviation					2.52	1.34	3.14	**2.01**	1.96	1.83	2.14	**2.01**
Significant effect on dependent variable					parametric test: NO		non parametric test: NO		parametric test: NO		non parametric test: NO	
Capital intensity (%)												
Mean					**25.95**	**31.02**	**24.43**	**26.52**	**36.25**	**24.15**	**22.67**	**26.52**
Median					20.05	23.76	17.95	**21.51**	31.21	23.44	16.51	**21.51**
Minimum					2.89	1.45	1.66	**1.45**	2.89	2.12	1.45	**1.45**
Maximum					80.06	84.51	65.03	**84.51**	84.51	61.97	65.30	**84.51**
Standard Deviation					22.72	24.33	19.17	**21.46**	26.98	16.76	18.78	**21.46**
Significant effect on dependent variable					parametric test: NO		non parametric test: NO		parametric test: NO		non parametric test: NO	
Total sales (£m)												
Mean					**5,641.07**	**7,826.11**	**8,718.12**	**7,604.39**	**4,862.00**	**4,121.09**	**10,071.40**	**7,604.39**
Median					2,337.84	1,880.40	1,055.10	**1,857.53**	1,907.33	1,137.60	2,072.00	**1,857.53**
Minimum					334.25	171.88	81.13	**81.13**	334.25	171.88	81.13	**81.13**
Maximum					25,901.04	35,288.06	148,174.39	**148,174.39**	25,901.04	21,963.00	148,174.39	**148,174.39**
Standard Deviation					6,902.79	10,305.68	25,925.28	**18,580.84**	6,775.07	6,386.36	24,151.62	**18,580.84**
Significant effect on dependent variable					parametric test: NO		non parametric test: NO		parametric test: NO		non parametric test: NO	
Growth rate (sales, %)												
Mean					**4.96**	**5.70**	**7.51**	**6.32**	**2.67**	**4.61**	**8.63**	**6.32**
Median					5.43	3.76	2.85	**3.46**	2.17	6.74	3.01	**3.46**
Minimum					-25.26	-17.15	-33.75	**-33.75**	-25.26	-17.15	-33.75	**-33.75**
Maximum					26.35	51.56	136.74	**136.74**	24.43	28.22	136.74	**136.74**
Standard Deviation					14.75	14.65	27.19	**21.18**	13.57	14.07	25.69	**21.18**
Significant effect on dependent variable					parametric test: NO		non parametric test: NO		parametric test: NO		non parametric test: NO	
Effective tax rate (%)												
Mean					**27.62**	**13.32**	**41.44**	**30.41**	**26.89**	**32.30**	**31.45**	**30.41**
Median					20.84	25.06	23.02	**23.24**	22.56	27.42	22.80	**23.24**
Minimum					-115.25	-127.78	-39.34	**-127.78**	-115.25	15.54	-127.78	**-127.78**
Maximum					310.92	108.16	442.22	**442.22**	310.92	108.16	442.22	**442.22**
Standard Deviation					70.80	49.84	83.87	**72.94**	74.16	22.76	83.75	**72.94**
Significant effect on dependent variable					parametric test: NO		non parametric test: NO		parametric test: NO		non parametric test: NO	
Profitability (ROE, %)												
Mean					**27.69**	**22.52**	**19.79**	**22.76**	**22.98**	**13.32**	**25.80**	**22.76**
Median					16.03	17.35	13.41	**14.80**	12.65	9.98	19.96	**14.80**
Minimum					-9.53	-5.27	-3.80	**-9.53**	-9.53	-1.46	-5.27	**-9.53**
Maximum					225.91	156.61	142.95	**225.91**	225.91	39.71	156.61	**225.91**
Standard Deviation					47.17	34.18	24.90	**34.58**	48.68	12.22	31.65	**34.58**
Significant effect on dependent variable					parametric test: NO		non parametric test: NO		parametric test: NO		non parametric test: NO	
Current ratio												
Mean					**1.37**	**1.35**	**1.50**	**1.43**	**1.42**	**1.63**	**1.36**	**1.43**
Median					1.27	1.09	1.37	**1.29**	1.27	1.32	1.31	**1.29**
Minimum					0.59	0.54	0.40	**0.40**	0.59	0.65	0.40	**0.40**
Maximum					4.68	4.15	2.75	**4.68**	4.15	4.68	2.75	**4.68**
Standard Deviation					0.85	0.76	0.66	**0.74**	0.80	1.02	1.36	**0.74**
Significant effect on dependent variable					parametric test: NO		non parametric test: NO		parametric test: NO		non parametric test: NO	
Gearing (%)												
Mean					**87.42**	**109.64**	**90.90**	**94.58**	**71.43**	**139.31**	**90.70**	**94.58**
Median					51.33	76.16	66.17	**63.22**	79.12	83.71	52.44	**63.22**
Minimum					-5.42	-2.85	4.10	**-5.42**	-5.42	27.49	-2.85	**-5.42**
Maximum					599.66	686.52	299.40	**686.52**	174.74	599.66	686.52	**686.52**
Standard Deviation					121.05	152.81	75.03	**111.07**	44.86	151.68	115.67	**111.07**
Significant effect on dependent variable					parametric test: NO		non parametric test: NO		parametric test: NO		non parametric test: NO	

*: smallest revenue (NCA) % disclosed by the companies

**: significant at the 0.05 level

Appendix D. 3 Spearman's and Kendall's coefficients between the rank of revenue / NCA materiality thresholds used by the companies under IFRS 8 and the rank of different quantitative company characteristics

	Materiality threshold under IFRS 8*							
	Revenue %		**NCA %**		**Revenue %**		**NCA %**	
Company characteristics	**Spearman's rho**	**Sig. (2-tailed)**	**Spearman's rho**	**Sig. (2-tailed)**	**Kendall's tau**	**Sig. (2-tailed)**	**Kendall's tau**	**Sig. (2-tailed)**
NCA smallest %	**0.688**	**0.000**	1.000	-	**0.513**	**0.000**	1.000	-
Revenue smallest %	1.000	-	**0.688**	**0.000**	1.000	-	**0.513**	**0.000**
Foreign revenue	0.014	0.905	-0.004	0.969	0.010	0.897	-0.001	0.993
Foreign NCA	0.109	0.350	0.145	0.213	0.066	0.399	0.099	0.204
Capital intensity	-0.022	0.853	-0.162	0.163	-0.011	0.886	-0.111	0.158
HHI	0.169	0.145	0.047	0.684	0.125	0.116	0.027	0.733
Total sales	-0.099	0.397	-0.023	0.847	-0.060	0.446	-0.012	0.882
Growth rate	-0.033	0.776	0.101	0.386	-0.022	0.781	0.075	0.339
Profitability	0.009	0.938	0.180	0.119	0.011	0.893	0.110	0.160
Current ratio	0.124	0.287	0.030	0.795	0.078	0.319	0.022	0.777
Gearing	-0.037	0.752	-0.009	0.941	-0.025	0.747	-0.005	0.954
Number of foreign countries with subsidiary	0.196	0.089	0.118	0.308	0.144	0.071	0.079	0.325
Number of subsidiaries in foreign countries	0.140	0.228	0.024	0.835	0.100	0.207	0.028	0.726
Effective tax rate	-0.022	0.848	-0.086	0.459	-0.021	0.784	-0.049	0.530
Number of tax haven countries with subsidiaries	0.148	0.203	0.048	0.678	0.112	0.189	0.038	0.654
Number of subsidiaries in tax havens	0.015	0.895	-0.044	0.707	0.010	0.905	-0.033	0.689
% of revenue reported by country	**-0.247**	**0.032**	**-0.310**	**0.006**	**-0.165**	**0.035**	**-0.209**	**0.008**
Number of geographic locations reported	**-0.524**	**0.000**	**-0.522**	**0.000**	**-0.394**	**0.000**	**-0.408**	**0.000**
Number of individual countries reported	**-0.676**	**0.000**	**-0.595**	**0.000**	**-0.533**	**0.000**	**-0.467**	**0.000**
Number of geographic regions reported	-0.111	0.339	-0.123	0.290	-0.081	0.344	-0.096	0.260
Number of items disclosed by countries	-0.032	0.782	-0.016	0.889	-0.022	0.803	-0.012	0.892
Fineness score _ 3	**-0.392**	**0.000**	**-0.423**	**0.000**	**-0.270**	**0.001**	**-0.297**	**0.000**
Fineness score _ 4	**-0.363**	**0.001**	**-0.397**	**0.000**	**-0.251**	**0.001**	**-0.279**	**0.000**
Fineness score _ 8	**-0.306**	**0.007**	**-0.360**	**0.001**	**-0.208**	**0.008**	**-0.246**	**0.002**

*: smallest revenue (NCA) % disclosed by the companies

Appendix D. 4 Paired sample t-test for revenue and NCA materiality thresholds under IFRS 8

Part I: Paired sample t-test for revenue and NCA materiality thresholds under IFRS 8 (N=76)

Panel A

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	NCA smallest %	19.8697	76	22.71724	2.60585
	Revenue smallest %	14.360494	76	14.7155750	1.6879922

Panel B

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	NCA smallest % & Revenue smallest %	76	.677	.000

Panel C

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	NCA smallest % - Revenue smallest %	5.5092425	16.7351124	1.9196491	1.6851055	9.3333795	2.870	75	.005

Part II: Paired sample t-test for revenue materiality thresholds under IFRS 8 and IAS 14R (N=42)

Panel A

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Revenue smallest % _ IAS14R	15.967731	42	13.0962230	2.0207911
	Revenue smallest % _ IFRS8	10.751150	42	11.3946003	1.7582250

Panel B

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	Revenue smallest % _ IAS14R & Revenue smallest % _ IFRS8	42	.684	.000

Panel C

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	Revenue smallest % _ IAS14R - Revenue smallest % _ IFRS8	5.2165812	9.8555965	1.5207515	2.1453611	8.2878013	3.430	41	.001

Appendix D. 5 Revenue and NCA materiality thresholds under IFRS 8 by different categorical company characteristics

N=76	Company		Materiality threshold under IFRS 8 (%)*			
			Revenue		NCA	
Categories	**Number**	**%**	**Mean**	**Std. Dev.**	**Mean**	**Std. Dev.**
Industry						
Basic Materials	9	11.84	7.99	7.17	18.74	35.33
Consumer Services	10	13.16	10.91	13.13	8.47	8.85
Customer Goods	9	11.84	14.69	16.36	26.76	15.45
Health Care	4	5.26	32.21	14.14	28.40	15.45
Industrials	25	32.89	12.67	13.65	15.93	16.75
Oil and Gas	6	7.89	16.43	11.44	28.12	29.06
Technology	8	10.53	24.26	22.43	36.04	35.25
Telecommunication	2	2.63	8.79	5.10	10.31	9.13
Utilities	3	3.95	7.45	3.07	8.81	9.52
Total	**76**	**100.00**	**14.36**	**14.72**	**19.87**	**22.72**
Significant** effect on dependent variable						
parametric test			NO		NO	
non parametric test			NO		**YES**	
Auditor						
Big4_A	23	30.26	13.64	16.80	17.46	20.18
Big4_B	20	26.32	15.33	13.97	20.28	23.49
Big4_C	19	25.00	11.27	9.54	20.06	23.29
Big4_D	14	18.42	18.36	18.09	22.98	26.64
Not Big4	0	0.00	-	-	-	-
Total	**76**	**100.00**	**14.36**	**14.72**	**19.87**	**22.72**
Significant effect on dependent variable						
parametric test			NO		NO	
non parametric test			NO		NO	
Single segment / Not						
Not single segment company	75	98.68	14.52	14.75	20.13	22.75
Single segment company	1	1.32	2.37	-	0.11	-
Total	**76**	**100.00**	**14.36**	**14.72**	**19.87**	**22.72**
Significant effect on dependent variable						
parametric test			NO		NO	
non parametric test			NO		NO	
FTSE 100						
FTSE 100	37	48.68	13.12	13.75	17.75	20.37
FTSE 250	39	51.32	15.53	15.66	21.87	24.84
Total	**76**	**100.00**	**14.36**	**14.72**	**19.87**	**22.72**
Significant effect on dependent variable						
parametric test			NO		NO	
non parametric test			NO		NO	
Listing status						
Cross listed	71	93.42	14.48	14.70	20.44	23.02
Not cross listed	5	6.58	12.71	16.63	11.75	17.75
Total	**76**	**100.00**	**14.36**	**14.72**	**19.87**	**22.72**
Significant effect on dependent variable						
parametric test			NO		NO	
non parametric test			NO		NO	
US listing status						
US listed	52	68.42	15.45	15.89	21.07	22.87
Not US listed	24	31.58	12.00	11.72	17.26	22.65
Total	**76**	**100.00**	**14.36**	**14.72**	**19.87**	**22.72**
Significant effect on dependent variable						
parametric test			NO		NO	
non parametric test			NO		NO	
Early adopter						
Early adopter	14	18.42	6.86	7.20	10.43	11.68
Not early adopter	62	81.58	16.05	15.47	22.00	24.09
Total	**76**	**100.00**	**14.36**	**14.72**	**19.87**	**22.72**
Significant effect on dependent variable						
parametric test			**YES**		**YES**	
non parametric test			**YES**		NO	
Type of reporting segment						
Business	48	63.16	13.76	14.84	19.50	25.11
Geo	13	17.11	15.76	12.84	23.38	20.06
Mixed	15	19.74	15.07	16.62	18.00	16.93
Total	**76**	**100.00**	**14.36**	**14.72**	**19.87**	**22.72**
Significant effect on dependent variable						
parametric test			NO		NO	
non parametric test			NO		NO	
Geo revenue disclosure under IFRS 8						
Both reporting segment & EWI _ diff	20	26.32	16.23	15.59	22.45	19.70
Both reporting segment & EWI _ same	3	3.95	16.81	21.17	20.12	20.60
Entity wide information	48	63.16	13.76	14.84	19.50	25.11
Geo reporting segment	4	5.26	13.90	5.13	15.92	9.71
Mixed reporting segment	1	1.32	0.25	-	1.00	-
Total	**76**	**100.00**	**14.36**	**14.72**	**19.87**	**22.72**
Significant effect on dependent variable						
parametric test			NO		NO	
non parametric test			NO		NO	

*: dependent variables; smallest revenue (NCA) % disclosed by the companies

**: significant at the 0.05 level

Appendix D. 6 Foreign country disclosures by different categorical company characteristics

N=155	Foreign country disclosure				Foreign country disclosure				Foreign country disclosure			
Categories	**NO revenue & NCA**	**Only revenue**	**Revenue & NCA**	**Total**	**NO revenue & NCA**	**Only revenue**	**Revenue & NCA**	**Total**	**NO revenue & NCA**	**Only revenue**	**Revenue & NCA**	**Total**
	number of the companies				**% of the companies**				**% of the companies**			
Industry												
Basic Materials	4	2	9	**15**	26.67	13.33	60.00	**100.00**	8.33	6.45	11.84	**9.68**
Consumer Services	13	11	10	**34**	38.24	32.35	29.41	**100.00**	27.08	35.48	13.16	**21.94**
Customer Goods	5	3	9	**17**	29.41	17.65	52.94	**100.00**	10.42	9.68	11.84	**10.97**
Health Care	0	2	4	**6**	0.00	33.33	66.67	**100.00**	0.00	6.45	5.26	**3.87**
Industrials	19	9	25	**53**	35.85	16.98	47.17	**100.00**	39.58	29.03	32.89	**34.19**
Oil and Gas	0	2	6	**8**	0.00	25.00	75.00	**100.00**	0.00	6.45	7.89	**5.16**
Technology	5	1	8	**14**	35.71	7.14	57.14	**100.00**	10.42	3.23	10.53	**9.03**
Telecommunication	1	0	2	**3**	33.33	0.00	66.67	**100.00**	2.08	0.00	2.63	**1.94**
Utilities	1	1	3	**5**	20.00	20.00	60.00	**100.00**	2.08	3.23	3.95	**3.23**
Total	**48**	**31**	**76**	**155**	**30.97**	**20.00**	**49.03**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**
Auditor												
Big4_A	14	13	23	**50**	28.00	26.00	46.00	**100.00**	29.17	41.94	30.26	**32.26**
Big4_B	11	9	20	**40**	27.50	22.50	50.00	**100.00**	22.92	29.03	26.32	**25.81**
Big4_C	15	4	19	**38**	39.47	10.53	50.00	**100.00**	31.25	12.90	25.00	**24.52**
Big4_D	7	3	14	**24**	29.17	12.50	58.33	**100.00**	14.58	9.68	18.42	**15.48**
Not Big4	1	2	0	**3**	33.33	66.67	0.00	**100.00**	2.08	6.45	0.00	**1.94**
Total	**48**	**31**	**76**	**155**	**30.97**	**20.00**	**49.03**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**
Single segment / Not												
Not single segment company	46	28	75	**149**	30.87	18.79	50.34	**100.00**	95.83	90.32	98.68	**96.13**
Single segment company	2	3	1	**6**	33.33	50.00	16.67	**100.00**	4.17	9.68	1.32	**3.87**
Total	**48**	**31**	**76**	**155**	**30.97**	**20.00**	**49.03**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**
FTSE 100												
FTSE 100	9	11	37	**57**	15.79	19.30	64.91	**100.00**	18.75	35.48	48.68	**36.77**
FTSE 250	39	20	39	**98**	39.80	20.41	39.80	**100.00**	81.25	64.52	51.32	**63.23**
Total	**48**	**31**	**76**	**155**	**30.97**	**20.00**	**49.03**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**
Listing status												
Cross listed	44	27	71	**142**	30.99	19.01	50.00	**100.00**	91.67	87.10	93.42	**91.61**
Not cross listed	4	4	5	**13**	30.77	30.77	38.46	**100.00**	8.33	12.90	6.58	**8.39**
Total	**48**	**31**	**76**	**155**	**30.97**	**20.00**	**49.03**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**
US listing status												
US listed	21	20	52	**93**	22.58	21.51	55.91	**100.00**	43.75	64.52	68.42	**60.00**
Not US listed	27	11	24	**62**	43.55	17.74	38.71	**100.00**	56.25	35.48	31.58	**40.00**
Total	**48**	**31**	**76**	**155**	**30.97**	**20.00**	**49.03**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**
Early adopter												
Early adopter	5	4	14	**23**	21.74	17.39	60.87	**100.00**	11.63	12.90	18.42	**14.84**
Not early adopter	43	27	62	**132**	32.58	20.45	46.97	**100.00**	100.00	87.10	81.58	**85.16**
Total	**48**	**31**	**76**	**155**	**30.97**	**20.00**	**49.03**	**100.00**	**111.63**	**100.00**	**100.00**	**100.00**
Type of reporting segment												
Business	25	14	48	**87**	28.74	16.09	55.17	**100.00**	52.08	45.16	63.16	**56.13**
Geo	8	8	13	**29**	27.59	27.59	44.83	**100.00**	16.67	25.81	17.11	**18.71**
Mixed	15	9	15	**39**	38.46	23.08	38.46	**100.00**	31.25	29.03	19.74	**25.16**
Total	**48**	**31**	**76**	**155**	**30.97**	**20.00**	**49.03**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**
Geo revenue disclosure under IFRS 8												
Both reporting segm. & EWI _ diff	9	7	20	**36**	25.00	19.44	55.56	**100.00**	18.75	22.58	26.32	**23.23**
Both reporting segm. & EWI _ same	0	1	3	**4**	0.00	25.00	75.00	**100.00**	0.00	3.23	3.95	**2.58**
Entity wide information	25	14	48	**87**	28.74	16.09	55.17	**100.00**	52.08	45.16	63.16	**56.13**
Geo reporting segment	7	4	4	**15**	46.67	26.67	26.67	**100.00**	14.58	12.90	5.26	**9.68**
Mixed reporting segment	7	5	1	**13**	53.85	38.46	7.69	**100.00**	14.58	16.13	1.32	**8.39**
Total	**48**	**31**	**76**	**155**	**30.97**	**20.00**	**49.03**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**

Appendix D. 7 Association between foreign country disclosure and different categorical company characteristics

N=155	Pearson's Chi-square test			Number and (%) of the expected frequencies below 5	Cramer's V	
Categorical variables	Value	df	Asymp.sign. (2-sided)		Value	Approx.Sig.
Foreign country information under IFRS 8 (Neither revenue nor NCA for individual country, Only revenue for individual country, Both revenue and NCA for individual country) **&**						
Industry	16.443	16	0.422	17 (63.0)	0.230	0.422
Auditor	9.891	8	0.273	4 (26.7)	0.179	0.273
Single segment	4.153	2	0.125	3 (50.0)	0.164	0.125
FTSE 100 / 250	11.366	2	0.003	0 (0.0)	0.271	0.003
Listing status	1.146	2	0.564	2 (33.3)	0.086	0.564
US listing	7.790	2	0.020	0 (0.0)	0.224	0.020
Early adopter	1.606	2	0.448	1 (16.7)	0.102	0.448
Type of reporting segment	4.300	4	0.367	0 (0.0)	0.118	0.367
Geo revenue disclosure under IFRS 8	16.045	8	0.042	7 (46.7)	0.228	0.042

Appendix D. 8 Foreign country disclosure under IFRS 8 by different categorical company characteristics

N=155	Foreign country disclosure under IFRS 8			
	NO revenue & NCA	Only revenue	Revenue & NCA	Total
Number of companies	**48**	**31**	**76**	**155**
% of companies	**30.97**	**20.00**	**49.03**	**100.00**
Dependent, quantitative variables				
% of foreign revenue				
Mean	**49.24**	**69.42**	**78.21**	**67.48**
Median	54.21	78.61	84.80	**79.79**
Minimum	0.34	1.58	2.37	**0.34**
Maximum	98.81	100.00	100.00	**100.00**
Standard Deviation	34.38	26.88	24.29	**30.83**
Significant effect on dependent variable	parametric test: **YES**		non parametric test: **YES**	
% of revenues reported by country				
Mean	**50.76**	**68.29**	**65.55**	**61.52**
Median	47.79	69.88	68.03	**67.49**
Minimum	1.19	11.35	14.51	**1.19**
Maximum	99.66	100.00	100.00	**100.00**
Standard Deviation	34.38	27.42	23.54	**28.82**
Significant effect on dependent variable	parametric test: **YES**		non parametric test: **YES**	
Number of locations reported				
Mean	**3.13**	**5.52**	**6.05**	**5.04**
Median	3.00	5.00	5.00	**4.00**
Minimum	2.00	2.00	2.00	**2.00**
Maximum	5.00	15.00	15.00	**15.00**
Standard Deviation	0.98	2.83	2.73	**2.68**
Significant effect on dependent variable	parametric test: **YES**		non parametric test: **YES**	
Number of countries reported				
Mean	**1.00**	**3.32**	**3.66**	**2.77**
Median	1.00	2.00	3.00	**2.00**
Minimum	1.00	2.00	1.00	**1.00**
Maximum	1.00	12.00	11.00	**12.00**
Standard Deviation	0.00	2.39	2.15	**2.19**
Significant effect on dependent variable	parametric test: **YES**		non parametric test: **YES**	
Number of foreign countries with subsidiary				
Mean	**9.17**	**10.55**	**12.24**	**10.95**
Median	4.50	7.00	9.00	**8.00**
Minimum	0.00	1.00	1.00	**0.00**
Maximum	51.00	32.00	64.00	**64.00**
Standard Deviation	10.67	8.88	10.85	**10.45**
Significant effect on dependent variable	parametric test: NO		non parametric test: **YES**	
Number of subsidiaries in foreign countries				
Mean	**15.42**	**18.29**	**24.61**	**20.50**
Median	9.00	16.00	19.00	**16.00**
Minimum	0.00	1.00	1.00	**0.00**
Maximum	95.00	55.00	92.00	**95.00**
Standard Deviation	18.25	13.48	21.47	**19.46**
Significant effect on dependent variable	parametric test: **YES**		non parametric test: **YES**	
Number of items disclosed by countries				
Mean	**3.83**	**5.29**	**3.12**	**3.77**
Median	2.00	3.00	2.00	**2.00**
Minimum	1.00	1.00	2.00	**1.00**
Maximum	12.00	12.00	11.00	**12.00**
Standard Deviation	2.85	3.89	2.01	**2.84**
Significant effect on dependent variable	parametric test: **YES**		non parametric test: **NO**	
Capital intensity (%)				
Mean	**25.22**	**27.02**	**26.52**	**26.22**
Median	22.80	21.29	21.51	**21.73**
Minimum	0.20	2.58	1.45	**0.20**
Maximum	79.70	71.06	84.51	**84.51**
Standard Deviation	21.24	20.98	21.46	**21.17**
Significant effect on dependent variable	parametric test: NO		non parametric test: **NO**	
Total sales (£m)				
Mean	**2,635.79**	**6,448.70**	**7,604.39**	**5,834.59**
Median	1,056.50	2,503.20	1,857.53	**1,435.00**
Minimum	148.33	98.50	81.13	**81.13**
Maximum	21,550.40	56,910.00	148,174.40	**148,174.40**
Standard Deviation	4,505.06	10,931.08	18,580.84	**14,227.51**
Significant effect on dependent variable	parametric test: NO		non parametric test: **NO**	

N=155	Foreign country disclosure under IFRS 8			
	NO revenue & NCA	Only revenue	Revenue & NCA	Total
Number of companies	**48**	**31**	**76**	**155**
% of companies	**30.97**	**20.00**	**49.03**	**100.00**
Dependent, quantitative variables				
Growth rate (sales, %)				
Mean	**4.91**	**3.61**	**6.32**	**5.34**
Median	1.23	3.81	3.46	**2.85**
Minimum	-26.32	-41.92	-33.75	**-41.92**
Maximum	82.50	40.86	136.74	**136.74**
Standard Deviation	18.71	14.85	21.18	**19.22**
Significant effect on dependent variable	parametric test: NO		non parametric test: NO	
Effective tax rate (%)				
Mean	**24.08**	**23.36**	**30.41**	**27.04**
Median	21.48	24.97	23.24	**23.16**
Minimum	-52.85	-107.46	-127.78	**-127.78**
Maximum	180.44	118.62	442.22	**442.22**
Standard Deviation	34.10	35.86	72.94	**56.64**
Significant effect on dependent variable	parametric test: NO		non parametric test: NO	
Profitability (ROE, %)				
Mean	**-3.34**	**27.94**	**22.76**	**15.71**
Median	11.89	15.21	14.80	**14.40**
Minimum	-1390.63	-11.92	-9.53	**-1390.63**
Maximum	1109.52	289.61	225.91	**1109.52**
Standard Deviation	271.99	55.86	34.58	**154.71**
Significant effect on dependent variable	parametric test: NO		non parametric test: NO	
Current ratio				
Mean	**1.37**	**1.31**	**1.43**	**1.38**
Median	1.31	1.24	1.29	**1.27**
Minimum	0.40	0.43	0.40	**0.40**
Maximum	3.86	3.87	4.68	**4.68**
Standard Deviation	0.86	0.69	0.74	**0.76**
Significant effect on dependent variable	parametric test: NO		non parametric test: NO	
Gearing (%)				
Mean	**76.70**	**81.23**	**94.58**	**86.37**
Median	46.62	48.40	63.22	**52.83**
Minimum	-8.85	6.48	-5.42	**-8.85**
Maximum	453.12	505.43	686.52	**686.52**
Standard Deviation	92.58	96.28	111.07	**102.46**
Significant effect on dependent variable	parametric test: NO		non parametric test: NO	
Fineness score _ 3				
Mean	**2.16**	**2.46**	**2.32**	**2.30**
Median	2.28	2.61	2.42	**2.41**
Minimum	0.35	0.79	0.95	**0.35**
Maximum	2.99	3.00	3.00	**3.00**
Standard Deviation	0.67	0.55	0.54	**0.59**
Significant effect on dependent variable	parametric test: **YES****		non parametric test: NO	
Fineness score _ 4				
Mean	**2.67**	**3.14**	**2.97**	**2.91**
Median	2.70	3.25	3.08	**3.12**
Minimum	0.46	1.05	1.27	**0.46**
Maximum	3.99	4.00	4.00	**4.00**
Standard Deviation	0.97	0.80	0.75	**0.85**
Significant effect on dependent variable	parametric test: **YES**		non parametric test: NO	
Fineness score _ 8				
Mean	**4.70**	**5.87**	**5.59**	**5.37**
Median	4.32	6.19	5.83	**5.81**
Minimum	0.92	2.11	2.04	**0.92**
Maximum	7.97	8.00	8.00	**8.00**
Standard Deviation	2.29	1.86	1.66	**1.96**
Significant effect on dependent variable	parametric test: **YES**		non parametric test: **YES**	

*: significant at the 0.05 level
**: significant at the 0.10 level

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